APPENDIX U

90th Percentile Temperature Calculations

Temperature Data for Bayou des Allemands at Des Allemands, LA (LDEQ station 0292)
Data retreived from LDEQ website (http://www.deq.state.la.us/surveillance/wqdata/wqnsites.stm)

summer 90th percentile 30.80 summer 90% saturated DO 6.7064153
winter 90th percentile 21.68 interpolated

DATE	WATER TEMP (C)	Season	Percentile
10/11/1994	21.30	summer	1.8%
10/15/1996	21.70	summer	5.4%
10/13/1992	22.10	summer	8.9%
10/10/1995	22.40	summer	12.5%
10/15/1991	23.50	summer	16.1%
10/12/1993	23.70	summer	19.6%
10/14/1997	24.10	summer	23.2%
10/31/2000	24.62	summer	26.8%
6/11/1991	26.20	summer	30.4%
10/3/2000	26.21	summer	33.9%
6/14/1994	26.60	summer	37.5%
5/9/2000	27.28	summer	41.1%
6/10/1997	27.50	summer	44.6%
8/13/1996	27.90	summer	48.2%
6/11/1996	28.00	summer	51.8%
9/12/2000	28.59	summer	55.4%
6/13/1995	28.60	summer	58.9%
6/13/2000	29.16	summer	62.5%
8/13/1991	29.20	summer	66.1%
8/15/1995	29.90	summer	69.6%
8/9/1994	30.02	summer	73.2%
8/10/1993	30.30	summer	76.8%
8/11/1992	30.40	summer	80.4%
6/16/1992	30.40	summer	83.9%
8/12/1997	30.80	summer	87.5%
6/15/1993	30.80	summer	91.1%
8/8/2000	31.07	summer	94.6%
7/11/2000	32.09	summer	98.2%

DATE	WATER TEMP (C)	Season	Percentile
12/12/1995	10.40	winter	1.9%
12/5/2000	12.10	winter	5.6%
2/11/1992	12.20	winter	9.3%
2/8/2000	12.51	winter	13.0%
2/10/1998	12.80	winter	16.7%
2/13/1996	13.00	winter	20.4%
2/18/1997	13.40	winter	24.1%
2/14/1995	13.40	winter	27.8%
12/9/1997	13.97	winter	31.5%
12/13/1994	14.00	winter	35.2%
12/14/1993	14.00	winter	38.9%
12/10/1996	15.10	winter	42.6%
12/15/1992	15.10	winter	46.3%
4/15/1997	15.70	winter	50.0%
2/5/1991	15.70	winter	53.7%
12/10/1991	15.80	winter	57.4%
1/11/2000	16.45	winter	61.1%
4/7/1992	17.70	winter	64.8%
2/8/1994	17.80	winter	68.5%
3/14/2000	18.42	winter	72.2%
4/9/1996	18.50	winter	75.9%
4/11/2000	19.64	winter	79.6%
4/13/1993	21.50	winter	83.3%
4/4/1995	21.60	winter	87.0%
4/14/1998	21.70	winter	90.7%
4/12/1994	24.20	winter	94.4%
4/16/1991	24.40	winter	98.1%

FILE: R:\PROJECTS\2110-611\CD_DES_ALL\APP U 90TH PERC TEMP\0292_90TH_PERCENTILE_TEMPS.XLS

APPENDIX V

Critical Flow Calculations

CALCULATION OF AVERAGE TIDAL FLOW FOR BAYOU DES ALLEMANDS
Based on LDEQ flow measurements and dye study results in Bayou des Allemands

Source of data	Starting and ending date/times for this averaging period	ADCP flow data			Data for LDEQ dye study results						Absolute value of flow multiplied by length of time (cfs*hrs)
		Measured or estim. flow (cfs)	Avg flow during this this time (cfs)	Elapsed time that flow occurs (hours)	Location of center of mass (meters d/s from injection)	Distance traveled since prev. run (feet)	Elapsed time since prev. run (hours)	Velocity since prev. run (ft/sec)	Cross section area (ft2)	Avg flow since prev. run (cfs)	
Extrapol. ADCP	9/9/02 14:08	-3164	-3164	24.00							75936
Extrapol. ADCP	9/10/02 14:08	-3164									
Extrapol. ADCP	9/10/02 14:08	-3164	-2480	18.79							46608
Interpol. ADCP	9/11/02 08:55	-1796									
Dye injection	9/11/02 08:55				0	-2323	4.13	-0.16	6975	-1091	4502
Dye run 1	9/11/02 13:03				-708						
Dye run 1	9/11/02 13:03				-708	-440	1.01	-0.12	6975	-845	852
Dye run 2	9/11/02 14:03				-842						
Dye run 2	9/11/02 14:03				-842	-576	3.17	-0.05	6975	-352	1116
Dye run 3	9/11/02 17:14				-1018						
Dye run 3	9/11/02 17:14				-1018	32578	20.90	0.43	8314	3600	75237
Dye run 4	9/12/02 14:08				8912						

Sum of flow * time = 204250 cfs*hrs

Flows measured with Acoustic Doppler Current Profiler (ADCP) in
Bayou des Allemands at Hwy 90 for interpolation and extrapolation above:

Total length of time = 72.00 hrs

Date / time	Flow (cfs)
9/10/02 16:13	-3012
9/11/02 10:58	-1647

Time weighted average flow = 2837 cfs

1/3 of average tidal flow = 946 cfs
= 26.8 m3/sec

FILE: R:\PROJECTS\2110-611\CD_DES_ALL\APP V CRITICAL CONDITIONS\AVG_TIDAL_FLOW.XLS

APPENDIX W

Calculation of K_L (Projection)

Wind Aided Reaeration for Bayou des Allemands Projection (020201)

Wind Aided Reaeration Coefficient Equation (Eq.3-23 from Rates, Constants, and Kinetics publication)

$K_{L\ with\ wind} = K_{L\ without\ wind}\ [1+(0.2395V_w^{1.643})]$ **Equation 1**

V_w = wind velocity in meters per second
K_2 = reaeration in 1/day that does not account for wind effects. For Louisiana equation use $K_2 = 0.664/D$.
D = depth in meters
$K_L = K_2 * D$ (=oxygen transfer coefficient "a" in model)

Formula to correct wind speed for elevation (obtained from LDEQ):

$V_{w@\ height\ z} = V_{w@\ height\ s}\ [(z/s)^{0.143}]$ **Equation 2**

CALCULATIONS FOR PROJECTION:

Long term average wind speed for August = 5.9 mph
= 5.1 knots

August was month with lowest average wind speed for summer months (May-Oct)

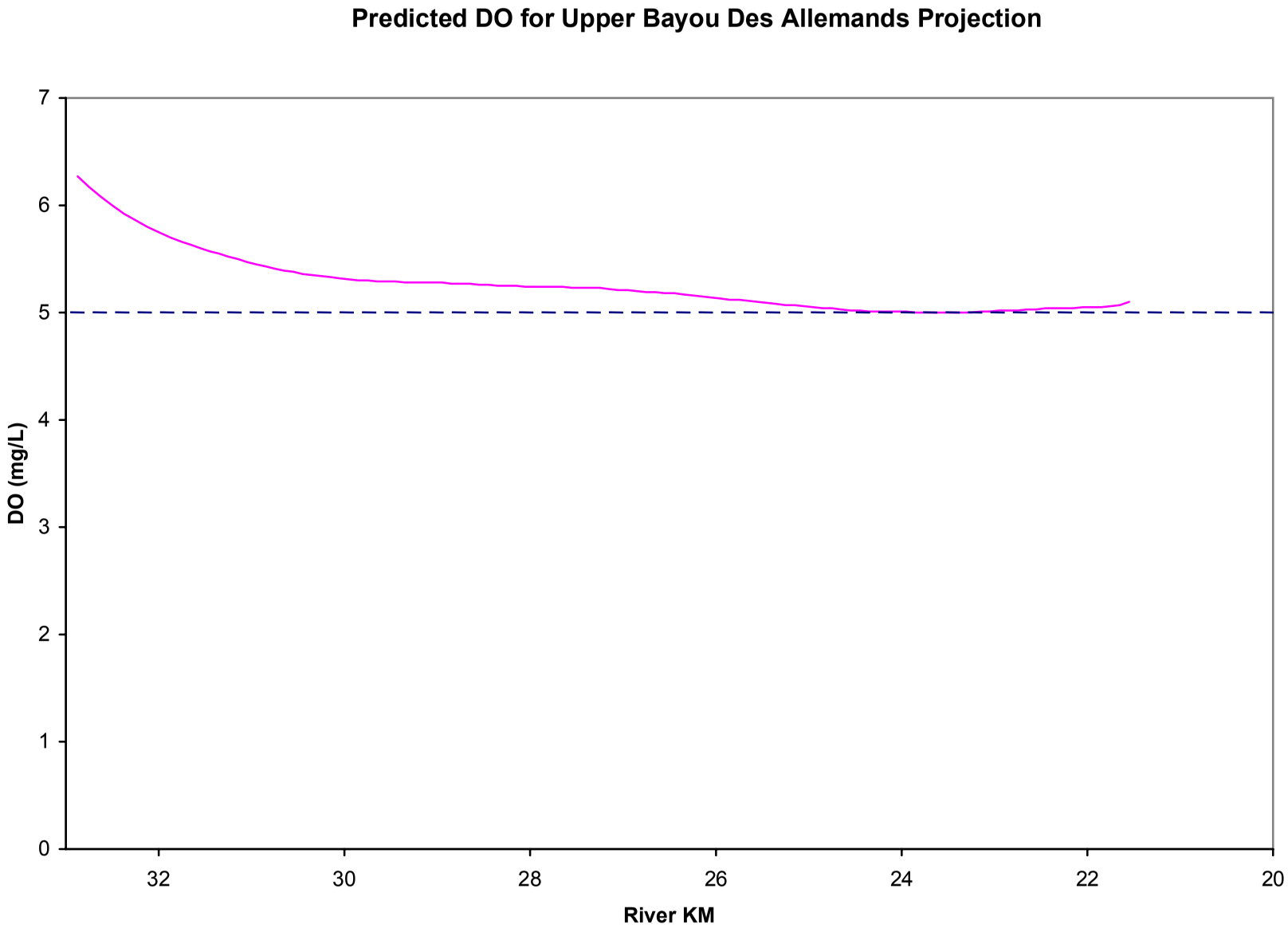
Source of long term average wind speed : NOAA (2001)

Station	Average Wind Speed (knots)	Average Wind Speed (m/s)	Height of Wind Measurement (m)	Height for Calculating Wind-Aided K_L (m)	Wind Speed at Surface using Eqn 2 (m/s)	K_L without wind (m/day)	K_L with wind using Eqn 1 (m/day)
New Orleans Intl. Airport	5.1	2.6	10	0.1	1.4	0.664	0.93

FILE: R:\PROJECTS\2110-611\CD_DES_ALL\APP W CALC KL (PROJ)\PROJ_WIND_SPEED.XLS

APPENDIX X

Plot of Projection Model DO


Predicted DO for Upper Bayou Des Allemands Projection
DO (mg/L)
7
6
5
4
3
2
1
0
32
30
28
26
24
22
20
River KM

APPENDIX Y

Printout of Projection Model Output

1

TEXAS WATER COMMISSION WATER QUALITY STREAM MODEL 01/23/04
QUAL-TX VERSION 3.3 UPDATED DECEMBER 3, 1990 13:46:33

$$$ DATA TYPE 1 (TITLES AND CONTROL CARDS) $$$

CARD TYPE		CONTROL TITLES
CNTROL01		QUAL-TX summer projection simulation, Upper Bayou Des Allemands,
CNTROL02		Projection Run
CNTROL03	YES	ECHO
CNTROL04	NO	CAPS
CNTROL05	YES	INTE
CNTROL06	YES	FINA
CNTROL07	YES	LOAD
CNTROL08	YES	METR
CNTROL09	YES	OXYG
CNTROL10	YES	OVER
ENDATA01		

$$$ DATA TYPE 2 (MODEL OPTIONS) $$$

CARD TYPE		MODEL OPTION	
MODOPT01	NO	TEMP	
MODOPT02	NO	SALI	
MODOPT04	YES	CONSERVATIVE MATERIAL I = cond	IN umhos
MODOPT04	NO	CONS	
MODOPT05	YES	DISS	
MODOPT06	YES	BIOC	
MODOPT07	YES	NITR	
MODOPT08	YES	PHOS	
MODOPT09	YES	CHLO	
MODOPT10	NO	MACR	
MODOPT11	NO	COLI	
MODOPT12	NO	NONC	
ENDATA02			

$$$ DATA TYPE 3 (PROGRAM CONSTANTS) $$$

CARD TYPE	DESCRIPTION OF CONSTANT		VALUE
PROGRAM	MAXIMUM ITERATION LIMIT	=	2000.00000
PROGRAM	KL MININUM	=	0.93000

PROGRAM TOTAL DAILY RADIATION = 416.00000
ENDATA03

$$$ DATA TYPE 4 (TEMPERATURE CORRECTION CONSTANTS FOR RATE COEFFICIENTS) $$$

CARD TYPE	RATE CODE	THETA VALUE
BSOD	BENTHAL	1.06500
THETA	NH3 DECA	1.07000

ENDATA04

$$$ CONSTANTS TYPE 5 (TEMPERATURE DATA) $$$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE

ENDATA05

$$$ DATA TYPE 6 (ALGAE CONSTANTS) $$$

CARD TYPE	DESCRIPTION OF CONSTANT		VALUE
LIGHT	LIGHT SATURATION CONSTANT	=	10.00000

ENDATA06

$$$ DATA TYPE 7 (MACROPHYTE CONSTANTS) $$$

CARD TYPE	DESCRIPTION OF CONSTANT	VALUE

ENDATA07

$$$ DATA TYPE 8 (REACH IDENTIFICATION DATA) $$$

CARD TYPE	REACH ID	NAME	BEGIN REACH KM		END REACH KM	ELEM LENGTH KM	REACH LENGTH KM	ELEMS PER RCH	BEGIN ELEM NUM	END ELEM NUM
REACH ID	1 DA	Bayou Des Allemands	33.00	TO	31.75	0.1250	1.25	10	1	10
REACH ID	2 DA	Bayou Des Allemands	31.75	TO	31.25	0.1000	0.50	5	11	15
REACH ID	3 DA	Bayou Des Allemands	31.25	TO	28.75	0.1000	2.50	25	16	40
REACH ID	4 DA	Bayou Des Allemands	28.75	TO	28.25	0.1000	0.50	5	41	45
REACH ID	5 DA	Bayou Des Allemands	28.25	TO	27.25	0.1000	1.00	10	46	55

REACH ID	6	DA	Bayou Des Allemands	27.25	TO	26.25	0.1000	1.00	10	56	65
REACH ID	7	DA	Bayou Des Allemands	26.25	TO	25.25	0.1000	1.00	10	66	75
REACH ID	8	DA	Bayou Des Allemands	25.25	TO	24.25	0.1000	1.00	10	76	85
REACH ID	9	DA	Bayou Des Allemands	24.25	TO	23.25	0.1000	1.00	10	86	95
REACH ID	10	DA	Bayou Des Allemands	23.25	TO	22.25	0.1000	1.00	10	96	105
REACH ID	11	DA	Bayou Des Allemands	22.25	TO	21.55	0.1000	0.70	7	106	112

ENDATA08

$$$ DATA TYPE 9 (ADVECTIVE HYDRAULIC COEFFICIENTS) $$$

CARD TYPE	REACH	ID	VELOCITY "A"	VELOCITY "B"	DEPTH "C"	DEPTH "D"	DEPTH "E"	MANNINGS "N"
HYDR-1	1	DA	0.00045500	1.000	1.520	0.000	0.000	0.000
HYDR-1	2	DA	0.00055300	1.000	1.520	0.000	0.000	0.000
HYDR-1	3	DA	0.00065000	1.000	1.840	0.000	0.000	0.000
HYDR-1	4	DA	0.00098500	1.000	2.160	0.000	0.000	0.000
HYDR-1	5	DA	0.00178000	1.000	2.160	0.000	0.000	0.000
HYDR-1	6	DA	0.00147000	1.000	2.620	0.000	0.000	0.000
HYDR-1	7	DA	0.00125000	1.000	3.080	0.000	0.000	0.000
HYDR-1	8	DA	0.00125000	1.000	3.080	0.000	0.000	0.000
HYDR-1	9	DA	0.00138000	1.000	2.790	0.000	0.000	0.000
HYDR-1	10	DA	0.00154000	1.000	2.500	0.000	0.000	0.000
HYDR-1	11	DA	0.00368000	1.000	2.500	0.000	0.000	0.000

ENDATA09

$$$ DATA TYPE 10 (DISPERSIVE HYDRAULIC COEFFICIENTS) $$$

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"
HYDR-2	1	DA	0.00	4.500	0.000	0.000	0.000
HYDR-2	2	DA	0.00	4.500	0.000	0.000	0.000
HYDR-2	3	DA	0.00	4.500	0.000	0.000	0.000
HYDR-2	4	DA	0.00	4.500	0.000	0.000	0.000
HYDR-2	5	DA	0.00	4.500	0.000	0.000	0.000
HYDR-2	6	DA	0.00	4.500	0.000	0.000	0.000
HYDR-2	7	DA	0.00	4.500	0.000	0.000	0.000
HYDR-2	8	DA	0.00	4.500	0.000	0.000	0.000
HYDR-2	9	DA	0.00	4.500	0.000	0.000	0.000
HYDR-2	10	DA	0.00	4.500	0.000	0.000	0.000
HYDR-2	11	DA	0.00	4.500	0.000	0.000	0.000

ENDATA10

$$$ DATA TYPE 11 (INITIAL CONDITIONS) $$$

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
INITIAL	1	DA	30.80	0.29	6.71	0.14	0.05	0.17	35.00	0.00
INITIAL	2	DA	30.80	0.29	6.71	0.14	0.05	0.17	35.00	0.00
INITIAL	3	DA	30.80	0.29	6.71	0.14	0.05	0.17	35.00	0.00
INITIAL	4	DA	30.80	0.28	6.71	0.14	0.05	0.17	35.00	0.00
INITIAL	5	DA	30.80	0.28	6.71	0.14	0.05	0.17	35.00	0.00
INITIAL	6	DA	30.80	0.28	6.71	0.23	0.05	0.17	34.00	0.00
INITIAL	7	DA	30.80	0.27	6.71	0.32	0.05	0.17	33.00	0.00
INITIAL	8	DA	30.80	0.27	6.71	0.38	0.05	0.15	32.00	0.00
INITIAL	9	DA	30.80	0.27	6.71	0.43	0.05	0.12	31.00	0.00
INITIAL	10	DA	30.80	0.27	6.71	0.43	0.05	0.12	31.00	0.00
INITIAL	11	DA	30.80	0.28	6.71	0.43	0.05	0.12	31.00	0.00

ENDATA11

$$$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) $$$

CARD TYPE	REACH	ID	K2 OPT	K2 "A"	K2 "B"	K2 "C"	BKGRND SOD	AEROB BOD DECAY	BOD SETT	BOD CONV TO SOD	ANAER BOD DECAY
COEF-1	1	DA	3.	0.000	0.000	0.000	0.350	0.140	0.000	0.000	0.000
COEF-1	2	DA	3.	0.000	0.000	0.000	0.400	0.140	0.000	0.000	0.000
COEF-1	3	DA	3.	0.000	0.000	0.000	0.400	0.140	0.000	0.000	0.000
COEF-1	4	DA	3.	0.000	0.000	0.000	0.400	0.140	0.000	0.000	0.000
COEF-1	5	DA	3.	0.000	0.000	0.000	0.400	0.140	0.000	0.000	0.000
COEF-1	6	DA	3.	0.000	0.000	0.000	0.400	0.140	0.000	0.000	0.000
COEF-1	7	DA	3.	0.000	0.000	0.000	0.400	0.140	0.000	0.000	0.000
COEF-1	8	DA	3.	0.000	0.000	0.000	0.450	0.140	0.000	0.000	0.000
COEF-1	9	DA	3.	0.000	0.000	0.000	0.400	0.140	0.000	0.000	0.000
COEF-1	10	DA	3.	0.000	0.000	0.000	0.350	0.140	0.000	0.000	0.000
COEF-1	11	DA	3.	0.000	0.000	0.000	0.300	0.140	0.000	0.000	0.000

ENDATA12

$$$ DATA TYPE 13 (NITROGEN AND PHOSPHORUS COEFFICIENTS) $$$

CARD TYPE	REACH	ID	ORG-N DECA	ORG-N SETT	ORGN CONV TO NH3 SRCE	NH3 DECA	NH3 SRCE	PHOS SRCE	DENIT RATE
COEF-2	1	DA	0.02	0.00	1.00	0.10	0.01	0.01	0.00
COEF-2	2	DA	0.02	0.00	1.00	0.10	0.01	0.01	0.00
COEF-2	3	DA	0.02	0.00	1.00	0.10	0.02	0.01	0.00
COEF-2	4	DA	0.02	0.00	1.00	0.10	0.03	0.00	0.00
COEF-2	5	DA	0.02	0.00	1.00	0.10	0.05	0.00	0.00
COEF-2	6	DA	0.02	0.00	1.00	0.10	0.05	0.00	0.00

COEF-2	7	DA	0.02	0.00	1.00	0.10	0.05	0.00	0.00
COEF-2	8	DA	0.02	0.00	1.00	0.10	0.05	0.00	0.00
COEF-2	9	DA	0.02	0.00	1.00	0.10	0.05	0.00	0.00
COEF-2	10	DA	0.02	0.00	1.00	0.10	0.06	0.00	0.00
COEF-2	11	DA	0.02	0.00	1.00	0.10	0.06	0.00	0.00

ENDATA13

$$$ DATA TYPE 14 (ALGAE AND MACROPHYTE COEFFICIENTS) $$$

CARD TYPE	REACH	ID	SECCHI DEPTH	ALGAE: CHL A	ALGAE SETT	ALG CONV TO SOD	ALGAE GROW	ALGAE RESP	MACRO GROW	MACRO RESP
COEF-3	1	DA	1.00	0.060	0.50	0.08	1.62	0.10	0.00	0.00
COEF-3	2	DA	1.00	0.060	0.50	0.08	1.62	0.10	0.00	0.00
COEF-3	3	DA	1.00	0.060	0.50	0.08	1.62	0.10	0.00	0.00
COEF-3	4	DA	1.00	0.060	0.50	0.08	1.62	0.10	0.00	0.00
COEF-3	5	DA	1.00	0.060	0.50	0.08	1.62	0.10	0.00	0.00
COEF-3	6	DA	1.00	0.060	0.50	0.08	1.62	0.10	0.00	0.00
COEF-3	7	DA	1.00	0.060	0.50	0.08	1.62	0.10	0.00	0.00
COEF-3	8	DA	1.00	0.060	0.50	0.08	1.62	0.10	0.00	0.00
COEF-3	9	DA	1.00	0.060	0.50	0.08	1.62	0.10	0.00	0.00
COEF-3	10	DA	1.00	0.060	0.50	0.08	1.62	0.10	0.00	0.00
COEF-3	11	DA	1.00	0.060	0.50	0.08	1.62	0.10	0.00	0.00

ENDATA14

$$$ DATA TYPE 15 (COLIFORM AND NONCONSERVATIVE COEFFICIENTS) $$$

CARD TYPE	REACH	ID	COLIFORM DIE-OFF	NCM DECAY	NCM SETT	NCM CONV TO SOD

ENDATA15

$$$ DATA TYPE 16 (INCREMENTAL DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

CARD TYPE	REACH	ID	OUTFLOW	INFLOW	TEMP	SALIN	CM-I	CM-II	INFLOW/DIST

ENDATA16

$$$ DATA TYPE 17 (INCREMENTAL DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE	REACH	ID	DO	BOD	ORG-N	NH3	NO3+2

ENDATA17

$$$ DATA TYPE 18 (INCREMENTAL DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

CARD TYPE	REACH	ID	PHOS	CHL A	COLI	NCM

ENDATA18

$$$ DATA TYPE 19 (NONPOINT SOURCE DATA) $$$

CARD TYPE	REACH	ID	BOD	ORG-N	COLI	NCM	DO
NONPOINT	1	DA	600.00	0.00	0.00	0.00	0.00
NONPOINT	2	DA	450.00	0.00	0.00	0.00	0.00
NONPOINT	3	DA	300.00	0.00	0.00	0.00	0.00
NONPOINT	4	DA	75.00	0.00	0.00	0.00	0.00
NONPOINT	5	DA	15.00	0.00	0.00	0.00	0.00
NONPOINT	6	DA	15.00	0.00	0.00	0.00	0.00
NONPOINT	7	DA	15.00	0.00	0.00	0.00	0.00
NONPOINT	8	DA	37.50	0.00	0.00	0.00	0.00
NONPOINT	9	DA	37.50	0.00	0.00	0.00	0.00
NONPOINT	10	DA	37.50	0.00	0.00	0.00	0.00
NONPOINT	11	DA	15.00	0.00	0.00	0.00	0.00

ENDATA19

$$$ DATA TYPE 20 (HEADWATER FOR FLOW, TEMPERATURE, SALINITY AND CONSERVATIVES) $$$

CARD TYPE	ELEMENT	NAME	UNIT	FLOW	TEMP	SALIN	CM-I	CM-II
HDWTR-1	1	Lake Des Allemands	0	26.80000	30.800	0.000	427.000	0.000

ENDATA20

$$$ DATA TYPE 21 (HEADWATER DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE	ELEMENT	NAME	DO	BOD	ORG-N	NH3	NO3+2
HDWTR-2	1	Lake Des Allemands	6.71	3.79	1.58	0.12	0.05

ENDATA21

$$$ DATA TYPE 22 (HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
HDWTR-3	1	Lake Des Allemands	0.12	51.00	0.00	0.00

ENDATA22

$$$ DATA TYPE 23 (JUNCTION DATA) $$$

CARD TYPE	JUNCTION ELEMENT	UPSTRM ELEMENT	NAME

ENDATA23

$$$ DATA TYPE 24 (WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

CARD TYPE	ELEMENT	NAME	FLOW	TEMP	SAL	CM-I	CM-II
WSTLD-1	8	Providence Canal	0.00000	30.800	0.000	614.000	0.000
WSTLD-1	112	Collier Fisheries	0.00055	30.800	0.000	503.000	0.000

ENDATA24

$$$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE	ELEMENT	NAME	DO	BOD	% BOD RMVL	ORG-N	NH3	% NITRIF	NO3+2
WSTLD-2	8	Providence Canal	6.71	3.79	0.00	1.58	0.12	0.00	0.05
WSTLD-2	112	Collier Fisheries	2.00	60.00	0.00	5.00	10.00	0.00	10.00

ENDATA25

$$$ DATA TYPE 26 (WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
WSTLD-3	8	Providence Canal	0.12	51.00	0.00	0.00
WSTLD-3	112	Collier Fisheries	5.00	0.00	0.00	0.00

ENDATA26

$$$ DATA TYPE 27 (LOWER BOUNDARY CONDITIONS) $$$

CARD TYPE	CONSTITUENT		CONCENTRATION	
LOWER BC	TEMPERATURE	=	30.800	DEG C
LOWER BC	SALINITY	=	0.275	PPT
LOWER BC	CONSERVATIVE MATERIAL I	=	493.000	umhos
LOWER BC	CONSERVATIVE MATERIAL II	=	0.000	
LOWER BC	DISSOLVED OXYGEN	=	5.160	MG/L
LOWER BC	BIOCHEMICAL OXYGEN DEMAND	=	3.790	MG/L
LOWER BC	ORGANIC NITROGEN	=	1.270	MG/L
LOWER BC	AMMONIA NITROGEN	=	0.430	MG/L
LOWER BC	NITRATE + NITRITE	=	0.050	MG/L
LOWER BC	PHOSPHOROUS	=	0.120	MG/L
LOWER BC	CHLOROPYHLL A	=	31.000	UG/L
LOWER BC	COLIFORM	=	0.000	#/100 ML
LOWER BC	NONCONSERVATIVE MATERIAL	=	0.000	

ENDATA27

$$$ DATA TYPE 28 (FLOW AUGMENTATION DATA) $$$

CARD TYPE	REACH	AVAIL HDWS	TARGET	ORDER OF AVAIL SOURCES

ENDATA28

$$$ DATA TYPE 29 (SENSITIVITY ANALYSIS DATA) $$$

CARD TYPE	PARAMETER	COL 1	COL 2	COL 3	COL 4	COL 5	COL 6	COL 7	COL 8

ENDATA29

$$$ DATA TYPE 30 (PLOT CONTROL CARDS) $$$

ENDATA30

1

.....NO ERRORS DETECTED IN INPUT DATA

.....HYDRAULIC CALCULATIONS COMPLETED

.....TRIDIAGONAL MATRIX TERMS INITIALIZED

.....PHOTOSYNTHETIC RATES CONVERGENT IN 8 ITERATIONS

.....OXYGEN DEPENDENT RATES CONVERGENT IN 1 ITERATIONS

.....CONSTITUENT CALCULATIONS COMPLETED

1INTERMEDIATE REPORT
DISSOLVED OXYGEN
MG/L

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

ID	RCH	ELEM	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9
DA	1	1	6.27	6.17	6.08	6.00	5.92	5.86	5.80	5.75	5.70	5.66
DA	2	11	5.63	5.60	5.57	5.55	5.52					
DA	3	16	5.50	5.47	5.45	5.43	5.41	5.39	5.38	5.36	5.35	5.34
DA	3	26	5.33	5.32	5.31	5.30	5.30	5.29	5.29	5.29	5.28	5.28
DA	3	36	5.28	5.28	5.28	5.27	5.27					
DA	4	41	5.27	5.26	5.26	5.25	5.25					
DA	5	46	5.25	5.24	5.24	5.24	5.24	5.24	5.23	5.23	5.23	5.23
DA	6	56	5.22	5.21	5.21	5.20	5.19	5.19	5.18	5.18	5.17	5.16
DA	7	66	5.15	5.14	5.13	5.12	5.12	5.11	5.10	5.09	5.08	5.07
DA	8	76	5.07	5.06	5.05	5.04	5.04	5.03	5.02	5.02	5.01	5.01
DA	9	86	5.01	5.01	5.01	5.00	5.00	5.00	5.00	5.00	5.00	5.00
DA	10	96	5.01	5.01	5.02	5.02	5.02	5.03	5.03	5.04	5.04	5.04
DA	11	106	5.04	5.05	5.05	5.05	5.06	5.07	5.10			

1INTERMEDIATE REPORT
BIOCHEMICAL OXYGEN DEMAND
MG/L

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

ID	RCH	ELEM	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9
DA	1	1	3.5	3.5	3.4	3.4	3.3	3.2	3.2	3.2	3.1	3.1
DA	2	11	3.1	3.1	3.0	3.0	3.0					
DA	3	16	2.9	2.9	2.9	2.8	2.8	2.8	2.7	2.7	2.7	2.6
DA	3	26	2.6	2.6	2.5	2.5	2.5	2.4	2.4	2.4	2.3	2.3
DA	3	36	2.3	2.3	2.2	2.2	2.2					
DA	4	41	2.2	2.2	2.2	2.2	2.1					
DA	5	46	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0
DA	6	56	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9
DA	7	66	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8
DA	8	76	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
DA	9	86	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
DA	10	96	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
DA	11	106	1.5	1.5	1.5	1.5	1.6	1.8	2.6			

1INTERMEDIATE REPORT
ORGANIC NITROGEN
MG/L

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

ID	RCH	ELEM	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9
DA	1	1	1.56	1.55	1.55	1.54	1.53	1.53	1.52	1.52	1.51	1.51
DA	2	11	1.51	1.50	1.50	1.50	1.49					
DA	3	16	1.49	1.49	1.48	1.48	1.48	1.47	1.47	1.47	1.46	1.46
DA	3	26	1.46	1.45	1.45	1.45	1.45	1.44	1.44	1.44	1.43	1.43
DA	3	36	1.43	1.42	1.42	1.42	1.42					
DA	4	41	1.42	1.41	1.41	1.41	1.41					
DA	5	46	1.41	1.41	1.41	1.41	1.41	1.40	1.40	1.40	1.40	1.40
DA	6	56	1.40	1.40	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
DA	7	66	1.38	1.38	1.38	1.38	1.38	1.38	1.37	1.37	1.37	1.37
DA	8	76	1.37	1.37	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.35
DA	9	86	1.35	1.35	1.35	1.35	1.35	1.35	1.34	1.34	1.34	1.34
DA	10	96	1.34	1.34	1.34	1.34	1.33	1.33	1.33	1.33	1.33	1.33
DA	11	106	1.33	1.33	1.33	1.33	1.32	1.32	1.30			

1INTERMEDIATE REPORT
AMMONIA NITROGEN
MG/L

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

ID	RCH	ELEM	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9
DA	1	1	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
DA	2	11	0.13	0.14	0.14	0.14	0.14					
DA	3	16	0.14	0.14	0.14	0.14	0.15	0.15	0.15	0.15	0.15	0.15
DA	3	26	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
DA	3	36	0.17	0.17	0.17	0.17	0.17					
DA	4	41	0.17	0.17	0.17	0.17	0.17					
DA	5	46	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
DA	6	56	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.20	0.20
DA	7	66	0.20	0.20	0.20	0.20	0.20	0.20	0.21	0.21	0.21	0.21
DA	8	76	0.21	0.21	0.21	0.21	0.22	0.22	0.22	0.22	0.22	0.22
DA	9	86	0.22	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.23
DA	10	96	0.23	0.23	0.23	0.24	0.24	0.24	0.24	0.24	0.24	0.24
DA	11	106	0.24	0.24	0.24	0.25	0.25	0.27	0.33			

1INTERMEDIATE REPORT
NITRATE+NITRITE NITROGEN
MG/L

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

ID	RCH	ELEM	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9
DA	1	1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
DA	2	11	0.05	0.05	0.05	0.05	0.05					
DA	3	16	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06
DA	3	26	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07
DA	3	36	0.07	0.07	0.07	0.07	0.07					
DA	4	41	0.07	0.07	0.07	0.07	0.07					
DA	5	46	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08

DA	6	56	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DA	7	66	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
DA	8	76	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
DA	9	86	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.11
DA	10	96	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.12
DA	11	106	0.12	0.12	0.12	0.12	0.12	0.11	0.09			

1INTERMEDIATE REPORT
TOTAL NITROGEN
MG/L

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

ID	RCH	ELEM	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9
DA	1	1	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
DA	2	11	1.7	1.7	1.7	1.7	1.7					
DA	3	16	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
DA	3	26	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
DA	3	36	1.7	1.7	1.7	1.7	1.7					
DA	4	41	1.7	1.7	1.7	1.7	1.7					
DA	5	46	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
DA	6	56	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
DA	7	66	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
DA	8	76	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
DA	9	86	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
DA	10	96	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
DA	11	106	1.7	1.7	1.7	1.7	1.7	1.7	1.7			

1INTERMEDIATE REPORT
PHOSPHORUS
MG/L

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

ID	RCH	ELEM	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9
DA	1	1	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
DA	2	11	0.12	0.12	0.12	0.12	0.12					
DA	3	16	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
DA	3	26	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
DA	3	36	0.12	0.12	0.12	0.12	0.12					
DA	4	41	0.12	0.12	0.12	0.12	0.12					
DA	5	46	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
DA	6	56	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
DA	7	66	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
DA	8	76	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
DA	9	86	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
DA	10	96	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
DA	11	106	0.11	0.11	0.11	0.11	0.11	0.11	0.12			

1INTERMEDIATE REPORT
CHLOROPHYLL A
UG/L

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

ID	RCH	ELEM	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9
DA	1	1	47.3	46.3	45.5	44.6	43.8	43.0	42.3	41.6	41.0	40.5
DA	2	11	40.0	39.6	39.2	38.8	38.5					
DA	3	16	38.2	37.8	37.5	37.2	36.9	36.6	36.3	36.0	35.7	35.4
DA	3	26	35.2	34.9	34.6	34.4	34.1	33.9	33.7	33.4	33.2	33.0
DA	3	36	32.8	32.6	32.5	32.3	32.2					
DA	4	41	32.1	32.0	31.8	31.7	31.7					
DA	5	46	31.6	31.5	31.5	31.4	31.3	31.3	31.2	31.1	31.1	31.0
DA	6	56	30.9	30.8	30.7	30.6	30.6	30.5	30.4	30.3	30.2	30.1
DA	7	66	30.0	29.9	29.9	29.8	29.7	29.6	29.5	29.4	29.3	29.2
DA	8	76	29.1	29.1	29.0	28.9	28.8	28.7	28.7	28.6	28.5	28.4
DA	9	86	28.4	28.3	28.3	28.2	28.1	28.1	28.0	28.0	27.9	27.9
DA	10	96	27.8	27.8	27.8	27.7	27.7	27.6	27.6	27.6	27.5	27.5
DA	11	106	27.5	27.5	27.5	27.5	27.6	28.0	29.1			

1INTERMEDIATE REPORT
TEMPERATURE
DEG C

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

ID	RCH	ELEM	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9
DA	1	1	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80
DA	2	11	30.80	30.80	30.80	30.80	30.80					
DA	3	16	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80
DA	3	26	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80
DA	3	36	30.80	30.80	30.80	30.80	30.80					
DA	4	41	30.80	30.80	30.80	30.80	30.80					
DA	5	46	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80
DA	6	56	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80
DA	7	66	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80
DA	8	76	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80
DA	9	86	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80
DA	10	96	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80
DA	11	106	30.80	30.80	30.80	30.80	30.80	30.80	30.80			

1INTERMEDIATE REPORT
SALINITY
PPT

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

ID	RCH	ELEM	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9
DA	1	1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
DA	2	11	0.3	0.3	0.3	0.3	0.3					
DA	3	16	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
DA	3	26	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
DA	3	36	0.3	0.3	0.3	0.3	0.3					
DA	4	41	0.3	0.3	0.3	0.3	0.3					
DA	5	46	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

DA	6	56	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
DA	7	66	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
DA	8	76	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
DA	9	86	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
DA	10	96	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
DA	11	106	0.3	0.3	0.3	0.3	0.3	0.3	0.3			

1INTERMEDIATE REPORT
cond
umhos

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

ID	RCH	ELEM	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9
DA	1	1	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0
DA	2	11	427.0	427.0	427.0	427.0	427.0					
DA	3	16	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0
DA	3	26	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0
DA	3	36	427.0	427.0	427.0	427.0	427.0					
DA	4	41	427.0	427.0	427.0	427.0	427.0					
DA	5	46	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0
DA	6	56	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0
DA	7	66	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0
DA	8	76	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0
DA	9	86	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0
DA	10	96	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0	427.0
DA	11	106	427.0	427.1	427.3	428.0	430.1	436.9	458.5			

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FINAL REPORT Lake Des Allemands
REACH NO. 1 Bayou Des Allemands

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW CMS	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	PHOS MG/L	CHL A UG/L	COLI #/100ML	NCM *
1	HDWTR	26.8000	30.80	0.00	427.0	0.0	6.71	3.79	3.79	1.58	0.12	0.05	0.12	51.0	0.	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST KM	ENDING DIST KM	FLOW CMS	PCT EFF	ADVCTV VELO M/S	TRAVEL TIME DAYS	DEPTH M	WIDTH M	VOLUME CU M	SURFACE AREA SQ M	X-SECT AREA SQ M	TIDAL PRISM CU M	TIDAL VELO M/S	DISPRSN SQ M/S	MEAN VELO M/S
1	33.00	32.88	26.8000	0.0	0.012	0.12	1.52	1445.9	274725.	180740.3	2197.8	0.	0.000	4.500	0.012
2	32.88	32.75	26.8000	0.0	0.012	0.12	1.52	1445.9	274725.	180740.3	2197.8	0.	0.000	4.500	0.012
3	32.75	32.63	26.8000	0.0	0.012	0.12	1.52	1445.9	274725.	180740.3	2197.8	0.	0.000	4.500	0.012
4	32.63	32.50	26.8000	0.0	0.012	0.12	1.52	1445.9	274725.	180740.3	2197.8	0.	0.000	4.500	0.012
5	32.50	32.38	26.8000	0.0	0.012	0.12	1.52	1445.9	274725.	180740.3	2197.8	0.	0.000	4.500	0.012

6	32.38	32.25	26.8000	0.0	0.012	0.12	1.52	1445.9	274725.	180740.3	2197.8	0.	0.000	4.500	0.012
7	32.25	32.13	26.8000	0.0	0.012	0.12	1.52	1445.9	274725.	180740.3	2197.8	0.	0.000	4.500	0.012
8	32.13	32.00	26.8000	0.0	0.012	0.12	1.52	1445.9	274725.	180740.3	2197.8	0.	0.000	4.500	0.012
9	32.00	31.88	26.8000	0.0	0.012	0.12	1.52	1445.9	274725.	180740.3	2197.8	0.	0.000	4.500	0.012
10	31.88	31.75	26.8000	0.0	0.012	0.12	1.52	1445.9	274725.	180740.3	2197.8	0.	0.000	4.500	0.012
TOT						1.19			2747253.	1807403.5					
AVG					0.012		1.52	1445.9			2197.8				
CUM						1.19									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. MG/L	REAER RATE 1/DA	CBOD DECAY 1/DA	CBOD SETT 1/DA	ANBOD DECAY 1/DA	FULL SOD *	CORR SOD *	ORGN DECAY 1/DA	ORGN SETT 1/DA	NH3 DECAY 1/DA	NH3 SRCE *	DENIT RATE 1/DA	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/DA	NCM DECAY 1/DA	NCM SETT 1/DA
1	32.875	7.44	0.75	0.23	0.00	0.00	3.13	3.13	0.03	0.00	0.20	0.02	0.00	0.01	0.89	0.00	0.00	0.00	0.00
2	32.750	7.44	0.75	0.23	0.00	0.00	3.09	3.09	0.03	0.00	0.20	0.02	0.00	0.01	0.88	0.00	0.00	0.00	0.00
3	32.625	7.44	0.75	0.23	0.00	0.00	3.04	3.04	0.03	0.00	0.20	0.02	0.00	0.01	0.88	0.00	0.00	0.00	0.00
4	32.500	7.44	0.75	0.23	0.00	0.00	3.00	3.00	0.03	0.00	0.20	0.02	0.00	0.01	0.87	0.00	0.00	0.00	0.00
5	32.375	7.44	0.75	0.23	0.00	0.00	2.95	2.95	0.03	0.00	0.20	0.02	0.00	0.01	0.87	0.00	0.00	0.00	0.00
6	32.250	7.44	0.75	0.23	0.00	0.00	2.92	2.92	0.03	0.00	0.20	0.02	0.00	0.01	0.86	0.00	0.00	0.00	0.00
7	32.125	7.44	0.75	0.23	0.00	0.00	2.88	2.88	0.03	0.00	0.20	0.02	0.00	0.01	0.86	0.00	0.00	0.00	0.00
8	32.000	7.44	0.75	0.23	0.00	0.00	2.84	2.84	0.03	0.00	0.20	0.02	0.00	0.01	0.85	0.00	0.00	0.00	0.00
9	31.875	7.44	0.75	0.23	0.00	0.00	2.81	2.81	0.03	0.00	0.20	0.02	0.00	0.01	0.85	0.00	0.00	0.00	0.00
10	31.750	7.44	0.75	0.23	0.00	0.00	2.78	2.78	0.03	0.00	0.20	0.02	0.00	0.01	0.85	0.00	0.00	0.00	0.00
20 DEG C RATE				0.14		0.00		0.35	0.02		0.10	0.01	0.00	0.01			0.00	0.00	
AVG 20 DEG C RATE			0.61		0.00					0.00									0.00

* G/SQ M/D ** MG/L/DAY

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	TOTN MG/L	PHOS MG/L	CHL A UG/L	MACRO **	COLI #/100ML	NCM *
1	32.875	30.80	0.3	427.0	0.0	6.27	3.54	3.54	1.56	0.12	0.05	1.73	0.12	47.3	0.0	0.	0.00
2	32.750	30.80	0.3	427.0	0.0	6.17	3.47	3.47	1.55	0.13	0.05	1.73	0.12	46.3	0.0	0.	0.00
3	32.625	30.80	0.3	427.0	0.0	6.08	3.41	3.41	1.55	0.13	0.05	1.72	0.12	45.5	0.0	0.	0.00
4	32.500	30.80	0.3	427.0	0.0	6.00	3.36	3.36	1.54	0.13	0.05	1.72	0.12	44.6	0.0	0.	0.00
5	32.375	30.80	0.3	427.0	0.0	5.92	3.30	3.30	1.53	0.13	0.05	1.71	0.12	43.8	0.0	0.	0.00
6	32.250	30.80	0.3	427.0	0.0	5.86	3.25	3.25	1.53	0.13	0.05	1.71	0.12	43.0	0.0	0.	0.00
7	32.125	30.80	0.3	427.0	0.0	5.80	3.20	3.20	1.52	0.13	0.05	1.70	0.12	42.3	0.0	0.	0.00
8	32.000	30.80	0.3	427.0	0.0	5.75	3.16	3.16	1.52	0.13	0.05	1.70	0.12	41.6	0.0	0.	0.00
9	31.875	30.80	0.3	427.0	0.0	5.70	3.12	3.12	1.51	0.13	0.05	1.70	0.12	41.0	0.0	0.	0.00
10	31.750	30.80	0.3	427.0	0.0	5.66	3.09	3.09	1.51	0.13	0.05	1.69	0.12	40.5	0.0	0.	0.00

* CM-I = cond umhos
** G/CU M

CM-II =

NCM =

********** ALGAE AND MACROPHYTE DATA **********

ELEM NO.	ENDING DIST	SECCHI DEPTH M	NITR PREF	ALG SETT 1/DA	ALG LIT LIM	ALG N LIM	ALG P LIM	ALG N&P LIM	ALG TOT LIM	ALG GROW 1/DA	ALG RESP 1/DA	A P/R RATIO	MAC LIT LIM	MAC N LIM	MAC P LIM	MAC N&P LIM	MAC TOT LIM	MAC GROW 1/DA	MAC RESP 1/DA	M P/R RATIO
3												1.98								
4												1.99								
5																				
6	32.38	32.25	26.8000	0.0		0.012			0.12	1.52	1445.9	274725.		180740.3			2197.8	0.	0.000	4.500	0.012
7	32.25	32.13	26.8000	0.0		0.012			0.12	1.52	1445.9	274725.		180740.3			2197.8	0.	0.000	4.500	0.012
8	32.13	32.00	26.8000	0.0		0.012			0.12	1.52	1445.9	274725.		180740.3			2197.8	0.	0.000	4.500	0.012
9	32.00	31.88	26.8000	0.0		0.012			0.12	1.52	1445.9	274725.		180740.3			2197.8	0.	0.000	4.500	0.012
10	31.88	31.75	26.8000	0.0		0.012			0.12	1.52	1445.9	274725.		180740.3			2197.8	0.	0.000	4.500	0.012
TOT									1.19			2747253.		1807403.5							
AVG						0.012				1.52	1445.9						2197.8				
CUM									1.19												

2004 _bda.out 14 of 36

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. MG/L	REAER RATE 1/DA	CBOD DECAY 1/DA	CBOD SETT 1/DA	ANBOD DECAY 1/DA	FULL SOD *	CORR SOD *	ORGN DECAY 1/DA	ORGN SETT 1/DA	NH3 DECAY 1/DA	NH3 SRCE *	DENIT RATE 1/DA	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/DA	NCM DECAY 1/DA	NCM SETT 1/DA
1	32.875	7.44	0.75	0.23	0.00	0.00	3.13	3.13	0.03	0.00	0.20	0.02	0.00	0.01	0.89	0.00	0.00	0.00	0.00
2	32.750	7.44	0.75	0.23	0.00	0.00	3.09	3.09	0.03	0.00	0.20	0.02	0.00	0.01	0.88	0.00	0.00	0.00	0.00
3	32.625	7.44	0.75	0.23	0.00	0.00	3.04	3.04	0.03	0.00	0.20	0.02	0.00	0.01	0.88	0.00	0.00	0.00	0.00
4	32.500	7.44	0.75	0.23	0.00	0.00	3.00	3.00	0.03	0.00	0.20	0.02	0.00	0.01	0.87	0.00	0.00	0.00	0.00
5	32.375	7.44	0.75	0.23	0.00	0.00	2.95	2.95	0.03	0.00	0.20	0.02	0.00	0.01	0.87	0.00	0.00	0.00	0.00
6	32.250	7.44	0.75	0.23	0.00	0.00	2.92	2.92	0.03	0.00	0.20	0.02	0.00	0.01	0.86	0.00	0.00	0.00	0.00
7	32.125	7.44	0.75	0.23	0.00	0.00	2.88	2.88	0.03	0.00	0.20	0.02	0.00	0.01	0.86	0.00	0.00	0.00	0.00
8	32.000	7.44	0.75	0.23	0.00	0.00	2.84	2.84	0.03	0.00	0.20	0.02	0.00	0.01	0.85	0.00	0.00	0.00	0.00
9	31.875	7.44	0.75	0.23	0.00	0.00	2.81	2.81	0.03	0.00	0.20	0.02	0.00	0.01	0.85	0.00	0.00	0.00	0.00
10	31.750	7.44	0.75	0.23	0.00	0.00	2.78	2.78	0.03	0.00	0.20	0.02	0.00	0.01	0.85	0.00	0.00	0.00	0.00
20 DEG C RATE				0.14		0.00		0.35	0.02		0.10	0.01	0.00	0.01			0.00	0.00	
AVG 20 DEG C RATE			0.61		0.00					0.00									0.00

* G/SQ M/D ** MG/L/DAY

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	TOTN MG/L	PHOS MG/L	CHL A UG/L	MACRO **	COLI #/100ML	NCM *
1	32.875	30.80	0.3	427.0	0.0	6.27	3.54	3.54	1.56	0.12	0.05	1.73	0.12	47.3	0.0	0.	0.00
2	32.750	30.80	0.3	427.0	0.0	6.17	3.47	3.47	1.55	0.13	0.05	1.73	0.12	46.3	0.0	0.	0.00

TOT						0.39				904159.	594841.6								
AVG					0.015		1.52	1189.7					1808.3						
CUM						1.58													

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. MG/L	REAER RATE 1/DA	CBOD DECAY 1/DA	CBOD SETT 1/DA	ANBOD DECAY 1/DA	FULL SOD *	CORR SOD *	ORGN DECAY 1/DA	ORGN SETT 1/DA	NH3 DECAY 1/DA	NH3 SRCE *	DENIT RATE 1/DA	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/DA	NCM DECAY 1/DA	NCM SETT 1/DA
11	31.650	7.44	0.75	0.23	0.00	0.00	2.86	2.86	0.03	0.00	0.20	0.02	0.00	0.01	0.84	0.00	0.00	0.00	0.00
12	31.550	7.44	0.75	0.23	0.00	0.00	2.84	2.84	0.03	0.00	0.19	0.02	0.00	0.01	0.84	0.00	0.00	0.00	0.00
13	31.450	7.44	0.75	0.23	0.00	0.00	2.82	2.82	0.03	0.00	0.19	0.02	0.00	0.01	0.84	0.00	0.00	0.00	0.00
14	31.350	7.44	0.75	0.23	0.00	0.00	2.80	2.80	0.03	0.00	0.19	0.02	0.00	0.01	0.84	0.00	0.00	0.00	0.00
15	31.250	7.44	0.75	0.23	0.00	0.00	2.78	2.78	0.03	0.00	0.19	0.02	0.00	0.01	0.84	0.00	0.00	0.00	0.00
20 DEG C RATE				0.14		0.00		0.40	0.02		0.10	0.01	0.00	0.01			0.00	0.00	
AVG 20 DEG C RATE			0.61		0.00					0.00									0.00

* G/SQ M/D ** MG/L/DAY

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	TOTN MG/L	PHOS MG/L	CHL A UG/L	MACRO **	COLI #/100ML	NCM *
11	31.650	30.80	0.3	427.0	0.0	5.63	3.07	3.07	1.51	0.13	0.05	1.69	0.12	40.0	0.0	0.	0.00
12	31.550	30.80	0.3	427.0	0.0	5.60	3.05	3.05	1.50	0.14	0.05	1.69	0.12	39.6	0.0	0.	0.00
13	31.450	30.80	0.3	427.0	0.0	5.57	3.03	3.03	1.50	0.14	0.05	1.69	0.12	39.2	0.0	0.	0.00
14	31.350	30.80	0.3	427.0	0.0	5.55	3.00	3.00	1.50	0.14	0.05	1.68	0.12	38.8	0.0	0.	0.00
15	31.250	30.80	0.3	427.0	0.0	5.52	2.97	2.97	1.49	0.14	0.05	1.68	0.12	38.5	0.0	0.	0.00

* CM-I = cond umhos CM-II = NCM =
** G/CU M

********** ALGAE AND MACROPHYTE DATA **********

ELEM NO.	ENDING DIST	SECCHI DEPTH M	NITR PREF	ALG SETT 1/DA	ALG LIT LIM	ALG N LIM	ALG P LIM	ALG N&P LIM	ALG TOT LIM	ALG GROW 1/DA	ALG RESP 1/DA	A P/R RATIO	MAC LIT LIM	MAC N LIM	MAC P LIM	MAC N&P LIM	MAC TOT LIM	MAC GROW 1/DA	MAC RESP 1/DA	M P/R RATIO
11	31.650	0.63	0.28	0.42	.32	.38	.75	.51	.16	0.42	0.16	2.07	.00	.00	.00	.00	.00	0.00	0.00	0.00
12	31.550	0.64	0.28	0.42	.32	.38	.75	.51	.16	0.43	0.16	2.08	.00	.00	.00	.00	.00	0.00	0.00	0.00
13	31.450	0.64	0.28	0.42	.32	.39	.75	.51	.16	0.43	0.16	2.09	.00	.00	.00	.00	.00	0.00	0.00	0.00
14	31.350	0.64	0.28	0.42	.32	.39	.75	.51	.16	0.43	0.16	2.10	.00	.00	.00	.00	.00	0.00	0.00	0.00
15	31.250	0.64	0.28	0.42	.32	.39	.75	.51	.16	0.43	0.16	2.11	.00	.00	.00	.00	.00	0.00	0.00	0.00

20 DEG C RATE 0.50 1.62 0.10 0.00 0.00

NOTE ON NITR PREF: 1.0=NO3 ; 0.0=NH3

1

FINAL REPORT Lake Des Allemands QUAL-TX summer projection simulation, Upper Bayou Des Allemands,
REACH NO. 3 Bayou Des Allemands Projection Run

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW CMS	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	PHOS MG/L	CHL A UG/L	COLI #/100ML	NCM *

TOT			0.39			904159.	594841.6									
AVG		0.015		1.52	1189.7			1808.3								
CUM			1.58													

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. MG/L	REAER RATE 1/DA	CBOD DECAY 1/DA	CBOD SETT 1/DA	ANBOD DECAY 1/DA	FULL SOD *	CORR SOD *	ORGN DECAY 1/DA	ORGN SETT 1/DA	NH3 DECAY 1/DA	NH3 SRCE *	DENIT RATE 1/DA	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/DA	NCM DECAY 1/DA	NCM SETT 1/DA
11	31.650	7.44	0.75	0.23	0.00	0.00	2.86	2.86	0.03	0.00	0.20	0.02	0.00	0.01	0.84	0.00	0.00	0.00	0.00
12	31.550	7.44	0.75	0.23	0.00	0.00	2.84	2.84	0.03	0.00	0.19	0.02	0.00	0.01	0.84	0.00	0.00	0.00	0.00
13	31.450	7.44	0.75	0.23	0.00	0.00	2.82	2.82	0.03	0.00	0.19	0.02	0.00	0.01	0.84	0.00	0.00	0.00	0.00
14	31.350	7.44	0.75	0.23	0.00	0.00	2.80	2.80	0.03	0.00	0.19	0.02	0.00	0.01	0.84	0.00	0.00	0.00	0.00
15	31.250	7.44	0.75	0.23	0.00	0.00	2.78	2.78	0.03	0.00	0.19	0.02	0.00	0.01	0.84	0.00	0.00	0.00	0.00
20 DEG C RATE				0.14		0.00		0.40	0.02		0.10	0.01	0.00	0.01			0.00	0.00	
AVG 20 DEG C RATE			0.61		0.00					0.00									0.00

* G/SQ M/D ** MG/L/DAY

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	TOTN MG/L	PHOS MG/L	CHL A UG/L	MACRO **	COLI #/100ML	NCM *
11	31.650	30.80	0.3	427.0	0.0	5.63	3.07	3.07	1.51	0.13	0.05	1.69	0.12	40.0	0.0	0.	0.00
12	31.550	30.80	0.3	427.0	0.0	5.60	3.05	3.05	1.50	0.14	0.05	1.69	0.12	39.6	0.0	0.	0.00
13	31.450	30.80	0.3	427.0	0.0	5.57	3.03	3.03	1.50	0.14	0.05	1.69	0.12	39.2	0.0	0.	0.00
14	31.350	30.80	0.3	427.0	0.0	5.55	3.00	3.00	1.50	0.14	0.05	1.68	0.12	38.8	0.0	0.	0.00
15	31.250	30.80	0.3	427.0	0.0	5.52	2.97	2.97	1.49	0.14	0.05	1.68	0.12	38.5	0.0	0.	0.00

* CM-I = cond umhos CM-II = NCM =

** G/CU M

AVG				0.017			1.84	836.1				1538.5						
CUM						3.24												

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. MG/L	REAER RATE 1/DA	CBOD DECAY 1/DA	CBOD SETT 1/DA	ANBOD DECAY 1/DA	FULL SOD *	CORR SOD *	ORGN DECAY 1/DA	ORGN SETT 1/DA	NH3 DECAY 1/DA	NH3 SRCE *	DENIT RATE 1/DA	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/DA	NCM DECAY 1/DA	NCM SETT 1/DA
18												0.							
19	2004											0.	bda.out						17 of 36
20												0.							
20 DEG C RATE			0.50						1.62	0.10				0.00	0.00				

NOTE ON NITR PREF: 1.0=NO3 ; 0.0=NH3

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FINAL REPORT Lake Des Allemands
REACH NO. 3 Bayou Des Allemands

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW CMS	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	PHOS MG/L	CHL A UG/L	COLI #/100ML	NCM *
16	UPR RCH	26.8000	30.80	0.29	427.0	0.0	5.52	2.97	2.97	1.49	0.14	0.05	0.12	38.5	0.	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST KM	ENDING DIST KM	FLOW CMS	PCT EFF	ADVCTV VELO M/S	TRAVEL TIME DAYS	DEPTH M	WIDTH M	VOLUME CU M	SURFACE AREA SQ M	X-SECT AREA SQ M	TIDAL PRISM CU M	TIDAL VELO M/S	DISPRSN SQ M/S	MEAN VELO M/S
16	31.25	31.15	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
17	31.15	31.05	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
18	31.05	30.95	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
19	30.95	30.85	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
20	30.85	30.75	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
21	30.75	30.65	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
22	30.65	30.55	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
23	30.55	30.45	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
24	30.45	30.35	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
25	30.35	30.25	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
26	30.25	30.15	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
27	30.15	30.05	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
28	30.05	29.95	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
29	29.95	29.85	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
30	29.85	29.75	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
31	29.75	29.65	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
32	29.65	29.55	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017
33	29.55	29.45	26.8000	0.0	0.017	0.07	1.84	836.1	153846.	83612.0	1538.5	0.	0.000	4.500	0.017

19	30.850	30.80	0.3	427.0	0.0	5.43	2.83	2.83	1.48	0.14	0.05	1.68	0.12	37.2	0.0	0.	0.00
20	30.750	30.80	0.3	427.0	0.0	5.41	2.79	2.79	1.48	0.15	0.06	1.68	0.12	36.9	0.0	0.	0.00
21	30.650	30.80	0.3	427.0	0.0	5.39	2.75	2.75	1.47	0.15	0.06	1.68	0.12	36.6	0.0	0.	0.00
22	30.550	30.80	0.3	427.0	0.0	5.38	2.72	2.72	1.47	0.15	0.06	1.68	0.12	36.3	0.0	0.	0.00
23	30.450	30.80	0.3	427.0	0.0	5.36	2.68	2.68	1.47	0.15	0.06	1.67	0.12	36.0	0.0	0.	0.00
24	30.350	30.80	0.3	427.0	0.0	5.35	2.65	2.65	1.46	0.15	0.06	1.67	0.12	35.7	0.0	0.	0.00
25	30.250	30.80	0.3	427.0	0.0	5.34	2.62	2.62	1.46	0.15	0.06	1.67	0.12	35.4	0.0	0.	0.00
26	30.150	30.80	0.3	427.0	0.0	5.33	2.58	2.58	1.46	0.15	0.06	1.67	0.12	35.2	0.0	0.	0.00
27	30.050	30.80	0.3	427.0	0.0	5.32	2.55	2.55	1.45	0.16	0.06	1.67	0.12	34.9	0.0	0.	0.00
28	29.950	30.80	0.3	427.0	0.0	5.31	2.52	2.52	1.45	0.16	0.06	1.67	0.12	34.6	0.0	0.	0.00
29	29.850	30.80	0.3	427.0	0.0	5.30	2.49	2.49	1.45	0.16	0.06	1.67	0.12	34.4	0.0	0.	0.00
30	29.750	30.80	0.3	427.0	0.0	5.30	2.46	2.46	1.45	0.16	0.06	1.67	0.12	34.1	0.0	0.	0.00
31	29.650	30.80	0.3	427.0	0.0	5.29	2.43	2.43	1.44	0.16	0.06	1.67	0.12	33.9	0.0	0.	0.00
32	29.550	30.80	0.3	427.0	0.0	5.29	2.40	2.40	1.44	0.16	0.06	1.66	0.12	33.7	0.0	0.	0.00
33	29.450	30.80	0.3	427.0	0.0	5.29	2.37	2.37	1.44	0.16	0.06	1.66	0.12	33.4	0.0	0.	0.00
34	29.350	30.80	0.3	427.0	0.0	5.28	2.34	2.34	1.43	0.16	0.07	1.66	0.12	33.2	0.0	0.	0.00
35	29.250	30.80	0.3	427.0	0.0	5.28	2.31	2.31	1.43	0.16	0.07	1.66	0.12	33.0	0.0	0.	0.00
36	29.150	30.80	0.3	427.0	0.0	5.28	2.29	2.29	1.43	0.17	0.07	1.66	0.12	32.8	0.0	0.	0.00
37	29.050	30.80	0.3	427.0	0.0	5.28	2.26	2.26	1.42	0.17	0.07	1.66	0.12	32.6	0.0	0.	0.00
38	28.950	30.80	0.3	427.0	0.0	5.28	2.24	2.24	1.42	0.17	0.07	1.66	0.12	32.5	0.0	0.	0.00
39	28.850	30.80	0.3	427.0	0.0	5.27	2.22	2.22	1.42	0.17	0.07	1.66	0.12	32.3	0.0	0.	0.00
40	28.750	30.80	0.3	427.0	0.0	5.27	2.21	2.21	1.42	0.17	0.07	1.66	0.12	32.2	0.0	0.	0.00

* CM-I = cond umhos CM-II = NCM =
** G/CU M

********** ALGAE AND MACROPHYTE DATA **********

ELEM NO.	ENDING DIST	SECCHI DEPTH M	NITR PREF	ALG SETT 1/DA	ALG LIT LIM	ALG N LIM	ALG P LIM	ALG N&P LIM	ALG TOT LIM	ALG GROW 1/DA	ALG RESP 1/DA	A P/R RATIO	MAC LIT LIM	MAC N LIM	MAC P LIM	MAC N&P LIM	MAC TOT LIM	MAC GROW 1/DA	MAC RESP 1/DA	M P/R RATIO
16	31.150	0.64	0.27	0.35	.27	.39	.75	.51	.14	0.37	0.16	1.81	.00	.00	.00	.00	.00	0.00	0.00	0.00
17	31.050	0.64	0.27	0.35	.27	.39	.75	.52	.14	0.37	0.16	1.82	.00	.00	.00	.00	.00	0.00	0.00	0.00
18	30.950	0.64	0.27	0.35	.27	.40	.75	.52	.14	0.38	0.16	1.84	.00	.00	.00	.00	.00	0.00	0.00	0.00
19	30.850	0.65	0.27	0.35	.27	.40	.75	.52	.14	0.38	0.16	1.85	.00	.00	.00	.00	.00	0.00	0.00	0.00
20	30.750	0.65	0.28	0.35	.28	.40	.75	.52	.14	0.38	0.16	1.86	.00	.00	.00	.00	.00	0.00	0.00	0.00
21	30.650	0.65	0.28	0.35	.28	.40	.75	.52	.14	0.38	0.16	1.87	.00	.00	.00	.00	.00	0.00	0.00	0.00
22	30.550	0.65	0.28	0.35	.28	.41	.75	.53	.15	0.39	0.16	1.88	.00	.00	.00	.00	.00	0.00	0.00	0.00
23	30.450	0.65	0.28	0.35	.28	.41	.75	.53	.15	0.39	0.16	1.89	.00	.00	.00	.00	.00	0.00	0.00	0.00
24	30.350	0.65	0.28	0.35	.28	.41	.75	.53	.15	0.39	0.16	1.90	.00	.00	.00	.00	.00	0.00	0.00	0.00
25	30.250	0.66	0.28	0.35	.28	.41	.75	.53	.15	0.39	0.16	1.91	.00	.00	.00	.00	.00	0.00	0.00	0.00
26	30.150	0.66	0.28	0.35	.28	.42	.75	.53	.15	0.39	0.16	1.92	.00	.00	.00	.00	.00	0.00	0.00	0.00
27	30.050	0.66	0.28	0.35	.28	.42	.75	.54	.15	0.40	0.16	1.93	.00	.00	.00	.00	.00	0.00	0.00	0.00
28	29.950	0.66	0.28	0.35	.28	.42	.75	.54	.15	0.40	0.16	1.94	.00	.00	.00	.00	.00	0.00	0.00	0.00
29	29.850	0.66	0.28	0.35	.28	.42	.75	.54	.15	0.40	0.16	1.95	.00	.00	.00	.00	.00	0.00	0.00	0.00

AVG	0.017	1.84	836.1	1538.5
CUM	3.24			

32	29.550	0.66	0.28	0.35	.28	.43	.75	.54	.15	0.40	0.16	1.97	.00	.00	.00	.00	.00	0.00	0.00	0.00
33	29.450	0.67	0.28	0.35	.28	.43	.75	.55	.15	0.41	0.16	1.98	.00	.00	.00	.00	.00	0.00	0.00	0.00
34	29.350	0.67	0.29	0.35	.28	.43	.75	.55	.15	0.41	0.16	1.99	.00	.00	.00	.00	.00	0.00	0.00	0.00
35	29.250	0.67	0.29	0.35	.28	.43	.75	.55	.16	0.41	0.16	2.00	.00	.00	.00	.00	.00	0.00	0.00	0.00
36	29.150	0.67	0.29	0.35	.28	.44	.75	.55	.16	0.41	0.16	2.01	.00	.00	.00	.00	.00	0.00	0.00	0.00
37	29.050	0.67	0.29	0.35	.28	.44	.75	.55	.16	0.41	0.16	2.01	.00	.00	.00	.00	.00	0.00	0.00	0.00
38	28.950	0.67	0.29	0.35	.28	.44	.75	.55	.16	0.41	0.16	2.02	.00	.00	.00	.00	.00	0.00	0.00	0.00
39	28.850	0.67	0.29	0.35	.28	.44	.75	.56	.16	0.42	0.16	2.03	.00	.00	.00	.00	.00	0.00	0.00	0.00
40	28.750	0.67	0.29	0.35	.28	.44	.75	.56	.16	0.42	0.16	2.03	.00	.00	.00	.00	.00	0.00	0.00	0.00
20 DEG C RATE				0.50						1.62	0.10							0.00	0.00		

NOTE ON NITR PREF: 1.0=NO3 ; 0.0=NH3

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FINAL REPORT Lake Des Allemands
REACH NO. 4 Bayou Des Allemands

QUAL-TX summer projection simulation, Upper Bayou Des Allemands,
Projection Run

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW CMS	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	PHOS MG/L	CHL A UG/L	COLI #/100ML	NCM *
41	UPR RCH	26.8000	30.80	0.28	427.0	0.0	5.27	2.21	2.21	1.42	0.17	0.07	0.12	32.2	0.	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST KM	ENDING DIST KM	FLOW CMS	PCT EFF	ADVCTV VELO M/S	TRAVEL TIME DAYS	DEPTH M	WIDTH M	VOLUME CU M	SURFACE AREA SQ M	X-SECT AREA SQ M	TIDAL PRISM CU M	TIDAL VELO M/S	DISPRSN SQ M/S	MEAN VELO M/S
41	28.75	28.65	26.8000	0.0	0.026	0.04	2.16	470.0	101523.	47001.3	1015.2	0.	0.000	4.500	0.026
42	28.65	28.55	26.8000	0.0	0.026	0.04	2.16	470.0	101523.	47001.3	1015.2	0.	0.000	4.500	0.026
43	28.55	28.45	26.8000	0.0	0.026	0.04	2.16	470.0	101523.	47001.3	1015.2	0.	0.000	4.500	0.026
44	28.45	28.35	26.8000	0.0	0.026	0.04	2.16	470.0	101523.	47001.3	1015.2	0.	0.000	4.500	0.026

19	30.850	30.80	0.3	427.0	0.0	5.43	2.83	2.83	1.48	0.14	0.05	1.68	0.12	37.2	0.0	0.	0.00
20	30.750	30.80	0.3	427.0	0.0	5.41	2.79	2.79	1.48	0.15	0.06	1.68	0.12	36.9	0.0	0.	0.00
21	30.650	30.80	0.3	427.0	0.0	5.39	2.75	2.75	1.47	0.15	0.06	1.68	0.12	36.6	0.0	0.	0.00
22	30.550	30.80	0.3	427.0	0.0	5.38	2.72	2.72	1.47	0.15	0.06	1.68	0.12	36.3	0.0	0.	0.00
23	30.450	30.80	0.3	427.0	0.0	5.36	2.68	2.68	1.47	0.15	0.06	1.67	0.12	36.0	0.0	0.	0.00
24	30.350	30.80	0.3	427.0	0.0	5.35	2.65	2.65	1.46	0.15	0.06	1.67	0.12	35.7	0.0	0.	0.00
25	30.250	30.80	0.3	427.0	0.0	5.34	2.62	2.62	1.46	0.15	0.06	1.67	0.12	35.4	0.0	0.	0.00
26	30.150	30.80	0.3	427.0	0.0	5.33	2.58	2.58	1.46	0.15	0.06	1.67	0.12	35.2	0.0	0.	0.00
27	30.050	30.80	0.3	427.0	0.0	5.32	2.55	2.55	1.45	0.16	0.06	1.67	0.12	34.9	0.0	0.	0.00
28	29.950	30.80	0.3	427.0	0.0	5.31	2.52	2.52	1.45	0.16	0.06	1.67	0.12	34.6	0.0	0.	0.00
29	29.850	30.80	0.3	427.0	0.0	5.30	2.49	2.49	1.45	0.16	0.06	1.67	0.12	34.4	0.0	0.	0.00
30	29.750	30.80	0.3	427.0	0.0	5.30	2.46	2.46	1.45	0.16	0.06	1.67	0.12	34.1	0.0	0.	0.00
31	29.650	30.80	0.3	427.0	0.0	5.29	2.43	2.43	1.44	0.16	0.06	1.67	0.12	33.9	0.0	0.	0.00
32	29.550	30.80	0.3	427.0	0.0	5.29	2.40	2.40	1.44	0.16	0.06	1.66	0.12	33.7	0.0	0.	0.00
33	29.450	30.80	0.3	427.0	0.0	5.29	2.37	2.37	1.44	0.16	0.06	1.66	0.12	33.4	0.0	0.	0.00

42	28.550	7.44	0.53	0.23	0.00	0.00	2.44	2.44	0.03	0.00	0.19	0.06	0.00	0.01	0.49	0.00	0.00	0.00	0.00
43	28.450	7.44	0.53	0.23	0.00	0.00	2.44	2.44	0.03	0.00	0.19	0.06	0.00	0.01	0.49	0.00	0.00	0.00	0.00
44	28.350	7.44	0.53	0.23	0.00	0.00	2.43	2.43	0.03	0.00	0.19	0.06	0.00	0.01	0.49	0.00	0.00	0.00	0.00
45	28.250	7.44	0.53	0.23	0.00	0.00	2.43	2.43	0.03	0.00	0.19	0.06	0.00	0.01	0.49	0.00	0.00	0.00	0.00
20 DEG C RATE				0.14		0.00		0.40	0.02		0.10	0.03	0.00	0.00			0.00	0.00	
AVG 20 DEG C RATE			0.43		0.00					0.00									0.00

* G/SQ M/D ** MG/L/DAY

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	TOTN MG/L	PHOS MG/L	CHL A UG/L	MACRO **	COLI #/100ML	NCM *
41	28.650	30.80	0.3	427.0	0.0	5.27	2.20	2.20	1.42	0.17	0.07	1.66	0.12	32.1	0.0	0.	0.00
42	28.550	30.80	0.3	427.0	0.0	5.26	2.18	2.18	1.41	0.17	0.07	1.66	0.12	32.0	0.0	0.	0.00
43	28.450	30.80	0.3	427.0	0.0	5.26	2.17	2.17	1.41	0.17	0.07	1.66	0.12	31.8	0.0	0.	0.00
44	28.350	30.80	0.3	427.0	0.0	5.25	2.16	2.16	1.41	0.17	0.07	1.66	0.12	31.7	0.0	0.	0.00
45	28.250	30.80	0.3	427.0	0.0	5.25	2.15	2.15	1.41	0.17	0.07	1.66	0.12	31.7	0.0	0.	0.00

* CM-I = cond umhos CM-II = NCM =

** G/CU M

********** ALGAE AND MACROPHYTE DATA **********

ELEM NO.	ENDING DIST	SECCHI DEPTH M	NITR PREF	ALG SETT 1/DA	ALG LIT LIM	ALG N LIM	ALG P LIM	ALG N&P LIM	ALG TOT LIM	ALG GROW 1/DA	ALG RESP 1/DA	A P/R RATIO	MAC LIT LIM	MAC N LIM	MAC P LIM	MAC N&P LIM	MAC TOT LIM	MAC GROW 1/DA	MAC RESP 1/DA	M P/R RATIO
41	28.650	0.67	0.29	0.30	.25	.44	.75	.56	.14	0.36	0.16	1.77	.00	.00	.00	.00	.00	0.00	0.00	0.00
42	28.550	0.67	0.29	0.30	.25	.45	.75	.56	.14	0.36	0.16	1.77	.00	.00	.00	.00	.00	0.00	0.00	0.00
43	28.450	0.67	0.29	0.30	.25	.45	.75	.56	.14	0.37	0.16	1.78	.00	.00	.00	.00	.00	0.00	0.00	0.00
44	28.350	0.67	0.29	0.30	.25	.45	.75	.56	.14	0.37	0.16	1.78	.00	.00	.00	.00	.00	0.00	0.00	0.00
45	28.250	0.67	0.29	0.30	.25	.45	.75	.56	.14	0.37	0.16	1.79	.00	.00	.00	.00	.00	0.00	0.00	0.00
20 DEG C RATE				0.50						1.62	0.10							0.00	0.00	

NOTE ON NITR PREF: 1.0=NO3 ; 0.0=NH3

32	29.550	0.66	0.28	0.35	.28	.43	.75	.54	.15	0.40	0.16	1.97	.00	.00	.00	.00	.00	0.00	0.00	0.00
33	29.450	0.67	0.28	0.35	.28	.43	.75	.55	.15	0.41	0.16	1.98	.00	.00	.00	.00	.00	0.00	0.00	0.00
34	29.350	0.67	0.29	0.35	.28	.43	.75	.55	.15	0.41	0.16	1.99	.00	.00	.00	.00	.00	0.00	0.00	0.00
35	29.250	0.67	0.29	0.35	.28	.43	.75	.55	.16	0.41	0.16	2.00	.00	.00	.00	.00	.00	0.00	0.00	0.00
36	29.150	0.67	0.29	0.35	.28	.44	.75	.55	.16	0.41	0.16	2.01	.00	.00	.00	.00	.00	0.00	0.00	0.00
37	29.050	0.67	0.29	0.35	.28	.44	.75	.55	.16	0.41	0.16	2.01	.00	.00	.00	.00	.00	0.00	0.00	0.00
38	28.950	0.67	0.29	0.35	.28	.44	.75	.55	.16	0.41	0.16	2.02	.00	.00	.00	.00	.00	0.00	0.00	0.00
39	28.850	0.67	0.29	0.35	.28	.44	.75	.56	.16	0.42	0.16	2.03	.00	.00	.00	.00	.00	0.00	0.00	0.00
40	28.750	0.67	0.29	0.35	.28	.44	.75	.56	.16	0.42	0.16	2.03	.00	.00	.00	.00	.00	0.00	0.00	0.00

NO.		CMS	DEG C	PPT	*	*	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L	#/100ML	*
46	UPR RCH	26.8000	30.80	0.28	427.0	0.0	5.25	2.15	2.15	1.41	0.17	0.07	0.12	31.7	0.	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST KM	ENDING DIST KM	FLOW CMS	PCT EFF	ADVCTV VELO M/S	TRAVEL TIME DAYS	DEPTH M	WIDTH M	VOLUME CU M	SURFACE AREA SQ M	X-SECT AREA SQ M	TIDAL PRISM CU M	TIDAL VELO M/S	DISPRSN SQ M/S	MEAN VELO M/S
46	28.25	28.15	26.8000	0.0	0.048	0.02	2.16	260.1	56180.	26009.2	561.8	0.	0.000	4.500	0.048
47	28.15	28.05	26.8000	0.0	0.048	0.02	2.16	260.1	56180.	26009.2	561.8	0.	0.000	4.500	0.048
48	28.05	27.95	26.8000	0.0	0.048	0.02	2.16	260.1	56180.	26009.2	561.8	0.	0.000	4.500	0.048
49	27.95	27.85	26.8000	0.0	0.048	0.02	2.16	260.1	56180.	26009.2	561.8	0.	0.000	4.500	0.048
50	27.85	27.75	26.8000	0.0	0.048	0.02	2.16	260.1	56180.	26009.2	561.8	0.	0.000	4.500	0.048
51	27.75	27.65	26.8000	0.0	0.048	0.02	2.16	260.1	56180.	26009.2	561.8	0.	0.000	4.500	0.048
52	27.65	27.55	26.8000	0.0	0.048	0.02	2.16	260.1	56180.	26009.2	561.8	0.	0.000	4.500	0.048
53	27.55	27.45	26.8000	0.0	0.048	0.02	2.16	260.1	56180.	26009.2	561.8	0.	0.000	4.500	0.048
54	27.45	27.35	26.8000	0.0	0.048	0.02	2.16	260.1	56180.	26009.2	561.8	0.	0.000	4.500	0.048
55	27.35	27.25	26.8000	0.0	0.048	0.02	2.16	260.1	56180.	26009.2	561.8	0.	0.000	4.500	0.048
TOT						0.24			561798.	260091.5					
AVG					0.048		2.16	260.1			561.8				
CUM						3.70									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. MG/L	REAER RATE 1/DA	CBOD DECAY 1/DA	CBOD SETT 1/DA	ANBOD DECAY 1/DA	FULL SOD *	CORR SOD *	ORGN DECAY 1/DA	ORGN SETT 1/DA	NH3 DECAY 1/DA	NH3 SRCE *	DENIT RATE 1/DA	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/DA	NCM DECAY 1/DA	NCM SETT 1/DA
46	28.150	7.44	0.53	0.23	0.00	0.00	2.42	2.42	0.03	0.00	0.19	0.10	0.00	0.01	0.49	0.00	0.00	0.00	0.00
47	28.050	7.44	0.53	0.23	0.00	0.00	2.42	2.42	0.03	0.00	0.19	0.10	0.00	0.01	0.50	0.00	0.00	0.00	0.00
48	27.950	7.44	0.53	0.23	0.00	0.00	2.42	2.42	0.03	0.00	0.19	0.10	0.00	0.01	0.50	0.00	0.00	0.00	0.00
49	27.850	7.44	0.53	0.23	0.00	0.00	2.41	2.41	0.03	0.00	0.19	0.10	0.00	0.01	0.50	0.00	0.00	0.00	0.00
50	27.750	7.44	0.53	0.23	0.00	0.00	2.41	2.41	0.03	0.00	0.19	0.10	0.00	0.01	0.51	0.00	0.00	0.00	0.00
51	27.650	7.44	0.53	0.23	0.00	0.00	2.41	2.41	0.03	0.00	0.19	0.10	0.00	0.01	0.51	0.00	0.00	0.00	0.00
52	27.550	7.44	0.53	0.23	0.00	0.00	2.40	2.40	0.03	0.00	0.19	0.10	0.00	0.01	0.51	0.00	0.00	0.00	0.00
53	27.450	7.44	0.53	0.23	0.00	0.00	2.40	2.40	0.03	0.00	0.19	0.10	0.00	0.01	0.51	0.00	0.00	0.00	0.00
54	27.350	7.44	0.53	0.23	0.00	0.00	2.39	2.39	0.03	0.00	0.19	0.10	0.00	0.01	0.51	0.00	0.00	0.00	0.00
55	27.250	7.44	0.53	0.23	0.00	0.00	2.39	2.39	0.03	0.00	0.19	0.10	0.00	0.01	0.52	0.00	0.00	0.00	0.00

G/S

42	28.550	7.44	0.53	0.23	0.00	0.00	2.44	2.44	0.03	0.00	0.19	0.06	0.00	0.01	0.49	0.00	0.00	0.00	0.00
43	28.450	7.44	0.53	0.23	0.00	0.00	2.44	2.44	0.03	0.00	0.19	0.06	0.00	0.01	0.49	0.00	0.00	0.00	0.00
44	28.350	7.44	0.53	0.23	0.00	0.00	2.43	2.43	0.03	0.00	0.19	0.06	0.00	0.01	0.49	0.00	0.00	0.00	0.00
45	28.250	7.44	0.53	0.23	0.00	0.00	2.43	2.43	0.03	0.00	0.19	0.06	0.00	0.01	0.49	0.00	0.00	0.00	0.00
20 DEG C RATE				0.14		0.00		0.40	0.02		0.10	0.03	0.00	0.00			0.00	0.00	
AVG 20 DEG C RATE			0.43		0.00					0.00									0.00

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	TOTN MG/L	PHOS MG/L	CHL A UG/L	MACRO **	COLI #/100ML	NCM *
46	28.150	30.80	0.3	427.0	0.0	5.25	2.14	2.14	1.41	0.18	0.07	1.66	0.12	31.6	0.0	0.	0.00
47	28.050	30.80	0.3	427.0	0.0	5.24	2.13	2.13	1.41	0.18	0.07	1.66	0.12	31.5	0.0	0.	0.00
48	27.950	30.80	0.3	427.0	0.0	5.24	2.11	2.11	1.41	0.18	0.07	1.66	0.12	31.5	0.0	0.	0.00
49	27.850	30.80	0.3	427.0	0.0	5.24	2.10	2.10	1.41	0.18	0.07	1.66	0.12	31.4	0.0	0.	0.00
50	27.750	30.80	0.3	427.0	0.0	5.24	2.09	2.09	1.41	0.18	0.07	1.66	0.12	31.3	0.0	0.	0.00
51	27.650	30.80	0.3	427.0	0.0	5.24	2.08	2.08	1.40	0.18	0.07	1.66	0.12	31.3	0.0	0.	0.00
52	27.550	30.80	0.3	427.0	0.0	5.23	2.07	2.07	1.40	0.18	0.07	1.66	0.12	31.2	0.0	0.	0.00
53	27.450	30.80	0.3	427.0	0.0	5.23	2.06	2.06	1.40	0.18	0.08	1.66	0.12	31.1	0.0	0.	0.00
54	27.350	30.80	0.3	427.0	0.0	5.23	2.05	2.05	1.40	0.18	0.08	1.66	0.12	31.1	0.0	0.	0.00
55	27.250	30.80	0.3	427.0	0.0	5.23	2.03	2.03	1.40	0.18	0.08	1.66	0.12	31.0	0.0	0.	0.00

* CM-I = cond umhos CM-II = NCM =
** G/CU M

********** ALGAE AND MACROPHYTE DATA **********

ELEM NO.	ENDING DIST	SECCHI DEPTH M	NITR PREF	ALG SETT 1/DA	ALG LIT LIM	ALG N LIM	ALG P LIM	ALG N&P LIM	ALG TOT LIM	ALG GROW 1/DA	ALG RESP 1/DA	A P/R RATIO	MAC LIT LIM	MAC N LIM	MAC P LIM	MAC N&P LIM	MAC TOT LIM	MAC GROW 1/DA	MAC RESP 1/DA	M P/R RATIO
46	28.150	0.67	0.29	0.30	.25	.45	.75	.56	.14	0.37	0.16	1.79	.00	.00	.00	.00	.00	0.00	0.00	0.00
47	28.050	0.68	0.29	0.30	.25	.45	.75	.56	.14	0.37	0.16	1.80	.00	.00	.00	.00	.00	0.00	0.00	0.00
48	27.950	0.68	0.29	0.30	.25	.46	.75	.57	.14	0.37	0.16	1.81	.00	.00	.00	.00	.00	0.00	0.00	0.00
49	27.850	0.68	0.29	0.30	.25	.46	.75	.57	.14	0.37	0.16	1.81	.00	.00	.00	.00	.00	0.00	0.00	0.00
50	27.750	0.68	0.29	0.30	.25	.46	.75	.57	.14	0.37	0.16	1.82	.00	.00	.00	.00	.00	0.00	0.00	0.00
51	27.650	0.68	0.29	0.30	.25	.46	.75	.57	.14	0.37	0.16	1.82	.00	.00	.00	.00	.00	0.00	0.00	0.00
52	27.550	0.68	0.29	0.30	.25	.46	.75	.57	.14	0.38	0.16	1.83	.00	.00	.00	.00	.00	0.00	0.00	0.00
53	27.450	0.68	0.29	0.30	.25	.46	.75	.57	.14	0.38	0.16	1.84	.00	.00	.00	.00	.00	0.00	0.00	0.00
54	27.350	0.68	0.29	0.30	.25	.46	.75	.57	.14	0.38	0.16	1.84	.00	.00	.00	.00	.00	0.00	0.00	0.00
55	27.250	0.68	0.29	0.30	.25	.47	.75	.57	.14	0.38	0.16	1.85	.00	.00	.00	.00	.00	0.00	0.00	0.00
20 DEG C RATE				0.50						1.62	0.10							0.00	0.00	

NOTE ON NITR PREF: 1.0=NO3 ; 0.0=NH3

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FINAL REPORT Lake Des Allemands
REACH NO. 6 Bayou Des Allemands

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

NO.		CMS	DEG C	PPT	*	*	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L	#/100ML	*
46	UPR RCH	26.8000	30.80	0.28	427.0	0.0	5.25	2.15	2.15	1.41	0.17	0.07	0.12	31.7	0.	0.00

********** HYDRAULIC PARAMETER VALUES **********

56	UPR RCH	26.8000	30.80	0.28	427.0	0.0	5.23	2.03	2.03	1.40	0.18	0.08	0.12	31.0	0.	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST KM	ENDING DIST KM	FLOW CMS	PCT EFF	ADVCTV VELO M/S	TRAVEL TIME DAYS	DEPTH M	WIDTH M	VOLUME CU M	SURFACE AREA SQ M	X-SECT AREA SQ M	TIDAL PRISM CU M	TIDAL VELO M/S	DISPRSN SQ M/S	MEAN VELO M/S
56	27.25	27.15	26.8000	0.0	0.039	0.03	2.62	259.6	68027.	25964.6	680.3	0.	0.000	4.500	0.039
57	27.15	27.05	26.8000	0.0	0.039	0.03	2.62	259.6	68027.	25964.6	680.3	0.	0.000	4.500	0.039
58	27.05	26.95	26.8000	0.0	0.039	0.03	2.62	259.6	68027.	25964.6	680.3	0.	0.000	4.500	0.039
59	26.95	26.85	26.8000	0.0	0.039	0.03	2.62	259.6	68027.	25964.6	680.3	0.	0.000	4.500	0.039
60	26.85	26.75	26.8000	0.0	0.039	0.03	2.62	259.6	68027.	25964.6	680.3	0.	0.000	4.500	0.039
61	26.75	26.65	26.8000	0.0	0.039	0.03	2.62	259.6	68027.	25964.6	680.3	0.	0.000	4.500	0.039
62	26.65	26.55	26.8000	0.0	0.039	0.03	2.62	259.6	68027.	25964.6	680.3	0.	0.000	4.500	0.039
63	26.55	26.45	26.8000	0.0	0.039	0.03	2.62	259.6	68027.	25964.6	680.3	0.	0.000	4.500	0.039
64	26.45	26.35	26.8000	0.0	0.039	0.03	2.62	259.6	68027.	25964.6	680.3	0.	0.000	4.500	0.039
65	26.35	26.25	26.8000	0.0	0.039	0.03	2.62	259.6	68027.	25964.6	680.3	0.	0.000	4.500	0.039
TOT						0.29			680272.	259645.8					
AVG					0.039		2.62	259.6			680.3				
CUM						3.99									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. MG/L	REAER RATE 1/DA	CBOD DECAY 1/DA	CBOD SETT 1/DA	ANBOD DECAY 1/DA	FULL SOD *	CORR SOD *	ORGN DECAY 1/DA	ORGN SETT 1/DA	NH3 DECAY 1/DA	NH3 SRCE *	DENIT RATE 1/DA	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/DA	NCM DECAY 1/DA	NCM SETT 1/DA
56	27.150	7.44	0.43	0.23	0.00	0.00	2.39	2.39	0.03	0.00	0.19	0.11	0.00	0.01	0.33	0.00	0.00	0.00	0.00
57	27.050	7.44	0.43	0.23	0.00	0.00	2.38	2.38	0.03	0.00	0.19	0.11	0.00	0.01	0.33	0.00	0.00	0.00	0.00
58	26.950	7.44	0.43	0.23	0.00	0.00	2.38	2.38	0.03	0.00	0.19	0.11	0.00	0.01	0.34	0.00	0.00	0.00	0.00
59	26.850	7.44	0.43	0.23	0.00	0.00	2.37	2.37	0.03	0.00	0.19	0.11	0.00	0.01	0.34	0.00	0.00	0.00	0.00
60	26.750	7.44	0.43	0.23	0.00	0.00	2.37	2.37	0.03	0.00	0.19	0.11	0.00	0.01	0.34	0.00	0.00	0.00	0.00
61	26.650	7.44	0.43	0.23	0.00	0.00	2.36	2.36	0.03	0.00	0.19	0.11	0.00	0.01	0.34	0.00	0.00	0.00	0.00
62	26.550	7.44	0.43	0.23	0.00	0.00	2.36	2.36	0.03	0.00	0.19	0.11	0.00	0.01	0.34	0.00	0.00	0.00	0.00
63	26.450	7.44	0.43	0.23	0.00	0.00	2.36	2.36	0.03	0.00	0.19	0.11	0.00	0.01	0.35	0.00	0.00	0.00	0.00
64	26.350	7.44	0.43	0.23	0.00	0.00	2.35	2.35	0.03	0.00	0.19	0.11	0.00	0.01	0.35	0.00	0.00	0.00	0.00
65	26.250	7.44	0.43	0.23	0.00	0.00	2.35	2.35	0.03	0.00	0.19	0.11	0.00	0.01	0.35	0.00	0.00	0.00	0.00
20 DEG C RATE				0.14		0.00		0.40	0.02		0.10	0.05	0.00	0.00			0.00	0.00	
AVG 20 DEG C RATE			0.35		0.00					0.00									0.00

* G/SQ M/D ** MG/L/DAY

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	TOTN MG/L	PHOS MG/L	CHL A UG/L	MACRO **	COLI #/100ML	NCM *

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	TOTN MG/L	PHOS MG/L	CHL A UG/L	MACRO **	COLI #/100ML	NCM *
56	27.150	30.80	0.3	427.0	0.0	5.22	2.02	2.02	1.40	0.19	0.08	1.66	0.12	30.9	0.0	0.	0.00
57	27.050	30.80	0.3	427.0	0.0	5.21	2.01	2.01	1.40	0.19	0.08	1.66	0.12	30.8	0.0	0.	0.00
58	26.950	30.80	0.3	427.0	0.0	5.21	2.00	2.00	1.39	0.19	0.08	1.66	0.12	30.7	0.0	0.	0.00
59	26.850	30.80	0.3	427.0	0.0	5.20	1.98	1.98	1.39	0.19	0.08	1.66	0.12	30.6	0.0	0.	0.00
60	26.750	30.80	0.3	427.0	0.0	5.19	1.97	1.97	1.39	0.19	0.08	1.66	0.12	30.6	0.0	0.	0.00
61	26.650	30.80	0.3	427.0	0.0	5.19	1.96	1.96	1.39	0.19	0.08	1.66	0.12	30.5	0.0	0.	0.00
62	26.550	30.80	0.3	427.0	0.0	5.18	1.94	1.94	1.39	0.19	0.08	1.66	0.12	30.4	0.0	0.	0.00
63	26.450	30.80	0.3	427.0	0.0	5.18	1.93	1.93	1.39	0.19	0.08	1.66	0.12	30.3	0.0	0.	0.00
64	26.350	30.80	0.3	427.0	0.0	5.17	1.92	1.92	1.39	0.20	0.08	1.66	0.12	30.2	0.0	0.	0.00
65	26.250	30.80	0.3	427.0	0.0	5.16	1.90	1.90	1.39	0.20	0.08	1.67	0.12	30.1	0.0	0.	0.00

* CM-I = cond umhos CM-II = NCM =

** G/CU M

********** ALGAE AND MACROPHYTE DATA **********

ELEM NO.	ENDING DIST	SECCHI DEPTH M	NITR PREF	ALG SETT 1/DA	ALG LIT LIM	ALG N LIM	ALG P LIM	ALG N&P LIM	ALG TOT LIM	ALG GROW 1/DA	ALG RESP 1/DA	A P/R RATIO	MAC LIT LIM	MAC N LIM	MAC P LIM	MAC N&P LIM	MAC TOT LIM	MAC GROW 1/DA	MAC RESP 1/DA	M P/R RATIO
56	27.150	0.68	0.29	0.25	.21	.47	.75	.57	.12	0.32	0.16	1.54	.00	.00	.00	.00	.00	0.00	0.00	0.00
57	27.050	0.68	0.29	0.25	.21	.47	.75	.58	.12	0.32	0.16	1.55	.00	.00	.00	.00	.00	0.00	0.00	0.00
58	26.950	0.68	0.29	0.25	.21	.47	.75	.58	.12	0.32	0.16	1.56	.00	.00	.00	.00	.00	0.00	0.00	0.00
59	26.850	0.68	0.29	0.25	.21	.47	.75	.58	.12	0.32	0.16	1.56	.00	.00	.00	.00	.00	0.00	0.00	0.00
60	26.750	0.68	0.29	0.25	.21	.47	.75	.58	.12	0.32	0.16	1.57	.00	.00	.00	.00	.00	0.00	0.00	0.00
61	26.650	0.68	0.30	0.25	.21	.48	.75	.58	.12	0.32	0.16	1.57	.00	.00	.00	.00	.00	0.00	0.00	0.00
62	26.550	0.68	0.30	0.25	.21	.48	.75	.58	.12	0.32	0.16	1.58	.00	.00	.00	.00	.00	0.00	0.00	0.00
63	26.450	0.68	0.30	0.25	.21	.48	.75	.58	.12	0.32	0.16	1.58	.00	.00	.00	.00	.00	0.00	0.00	0.00
64	26.350	0.68	0.30	0.25	.21	.48	.75	.58	.12	0.33	0.16	1.59	.00	.00	.00	.00	.00	0.00	0.00	0.00
65	26.250	0.68	0.30	0.25	.21	.48	.75	.59	.12	0.33	0.16	1.59	.00	.00	.00	.00	.00	0.00	0.00	0.00
20 DEG C RATE				0.50						1.62	0.10							0.00	0.00	

NOTE ON NITR PREF: 1.0=NO3 ; 0.0=NH3

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FINAL REPORT Lake Des Allemands — QUAL-TX summer projection simulation, Upper Bayou Des Allemands,
REACH NO. 7 Bayou Des Allemands — Projection Run

********** REACH INPUTS **********

ELEM	TYPE	FLOW	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	PHOS	CHL A	COLI	NCM

56	UPR RCH	26.8000	30.80	0.28	427.0	0.0	5.23	2.03	2.03	1.40	0.18	0.08	0.12	31.0	0.	0.00

66	UPR RCH	26.8000	30.80	0.27	427.0	0.0	5.16	1.90	1.90	1.39	0.20	0.08	0.12	30.1	0.	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST KM	ENDING DIST KM	FLOW CMS	PCT EFF	ADVCTV VELO M/S	TRAVEL TIME DAYS	DEPTH M	WIDTH M	VOLUME CU M	SURFACE AREA SQ M	X-SECT AREA SQ M	TIDAL PRISM CU M	TIDAL VELO M/S	DISPRSN SQ M/S	MEAN VELO M/S
66	26.25	26.15	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
67	26.15	26.05	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
68	26.05	25.95	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
69	25.95	25.85	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
70	25.85	25.75	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
71	25.75	25.65	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
72	25.65	25.55	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
73	25.55	25.45	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
74	25.45	25.35	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
75	25.35	25.25	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
TOT						0.35			800000.	259740.3					
AVG					0.033		3.08	259.7			800.0				
CUM						4.34									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. MG/L	REAER RATE 1/DA	CBOD DECAY 1/DA	CBOD SETT 1/DA	ANBOD DECAY 1/DA	FULL SOD *	CORR SOD *	ORGN DECAY 1/DA	ORGN SETT 1/DA	NH3 DECAY 1/DA	NH3 SRCE *	DENIT RATE 1/DA	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/DA	NCM DECAY 1/DA	NCM SETT 1/DA
66	26.150	7.44	0.37	0.23	0.00	0.00	2.34	2.34	0.03	0.00	0.19	0.11	0.00	0.01	0.21	0.00	0.00	0.00	0.00
67	26.050	7.44	0.37	0.23	0.00	0.00	2.34	2.34	0.03	0.00	0.19	0.11	0.00	0.01	0.22	0.00	0.00	0.00	0.00
68	25.950	7.44	0.37	0.23	0.00	0.00	2.33	2.33	0.03	0.00	0.19	0.11	0.00	0.01	0.22	0.00	0.00	0.00	0.00
69	25.850	7.44	0.37	0.23	0.00	0.00	2.33	2.33	0.03	0.00	0.19	0.11	0.00	0.01	0.22	0.00	0.00	0.00	0.00
70	25.750	7.44	0.37	0.23	0.00	0.00	2.32	2.32	0.03	0.00	0.19	0.11	0.00	0.01	0.22	0.00	0.00	0.00	0.00
71	25.650	7.44	0.37	0.23	0.00	0.00	2.32	2.32	0.03	0.00	0.19	0.11	0.00	0.01	0.22	0.00	0.00	0.00	0.00
72	25.550	7.44	0.37	0.23	0.00	0.00	2.31	2.31	0.03	0.00	0.19	0.11	0.00	0.01	0.22	0.00	0.00	0.00	0.00
73	25.450	7.44	0.37	0.23	0.00	0.00	2.31	2.31	0.03	0.00	0.19	0.11	0.00	0.01	0.23	0.00	0.00	0.00	0.00
74	25.350	7.44	0.37	0.23	0.00	0.00	2.30	2.30	0.03	0.00	0.19	0.11	0.00	0.01	0.23	0.00	0.00	0.00	0.00
75	25.250	7.44	0.37	0.23	0.00	0.00	2.30	2.30	0.03	0.00	0.19	0.11	0.00	0.01	0.23	0.00	0.00	0.00	0.00
20 DEG C RATE				0.14		0.00		0.40	0.02		0.10	0.05	0.00	0.00			0.00	0.00	
AVG 20 DEG C RATE			0.30		0.00					0.00									0.00

* G/SQ M/D ** MG/L/DAY

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	TOTN MG/L	PHOS MG/L	CHL A UG/L	MACRO **	COLI #/100ML	NCM *
66	26.150	30.80	0.3	427.0	0.0	5.15	1.89	1.89	1.38	0.20	0.08	1.67	0.12	30.0	0.0	0.	0.00
67	26.050	30.80	0.3	427.0	0.0	5.14	1.87	1.87	1.38	0.20	0.09	1.67	0.12	29.9	0.0	0.	0.00
68	25.950	30.80	0.3	427.0	0.0	5.13	1.86	1.86	1.38	0.20	0.09	1.67	0.12	29.9	0.0	0.	0.00
69	25.850	30.80	0.3	427.0	0.0	5.12	1.85	1.85	1.38	0.20	0.09	1.67	0.12	29.8	0.0	0.	0.00
70	25.750	30.80	0.3	427.0	0.0	5.12	1.83	1.83	1.38	0.20	0.09	1.67	0.12	29.7	0.0	0.	0.00
71	25.650	30.80	0.3	427.0	0.0	5.11	1.82	1.82	1.38	0.20	0.09	1.67	0.12	29.6	0.0	0.	0.00
72	25.550	30.80	0.3	427.0	0.0	5.10	1.81	1.81	1.37	0.21	0.09	1.67	0.12	29.5	0.0	0.	0.00
73	25.450	30.80	0.3	427.0	0.0	5.09	1.79	1.79	1.37	0.21	0.09	1.67	0.12	29.4	0.0	0.	0.00
74	25.350	30.80	0.3	427.0	0.0	5.08	1.78	1.78	1.37	0.21	0.09	1.67	0.12	29.3	0.0	0.	0.00
75	25.250	30.80	0.3	427.0	0.0	5.07	1.77	1.77	1.37	0.21	0.09	1.67	0.12	29.2	0.0	0.	0.00

* CM-I = cond umhos CM-II = NCM =

** G/CU M

********** ALGAE AND MACROPHYTE DATA **********

ELEM NO.	ENDING DIST	SECCHI DEPTH M	NITR PREF	ALG SETT 1/DA	ALG LIT LIM	ALG N LIM	ALG P LIM	ALG N&P LIM	ALG TOT LIM	ALG GROW 1/DA	ALG RESP 1/DA	A P/R RATIO	MAC LIT LIM	MAC N LIM	MAC P LIM	MAC N&P LIM	MAC TOT LIM	MAC GROW 1/DA	MAC RESP 1/DA	M P/R RATIO
66	26.150	0.68	0.30	0.21	.18	.48	.75	.59	.10	0.28	0.16	1.36	.00	.00	.00	.00	.00	0.00	0.00	0.00
67	26.050	0.68	0.30	0.21	.18	.49	.75	.59	.10	0.28	0.16	1.37	.00	.00	.00	.00	.00	0.00	0.00	0.00
68	25.950	0.68	0.30	0.21	.18	.49	.75	.59	.11	0.28	0.16	1.37	.00	.00	.00	.00	.00	0.00	0.00	0.00
69	25.850	0.69	0.30	0.21	.18	.49	.75	.59	.11	0.28	0.16	1.37	.00	.00	.00	.00	.00	0.00	0.00	0.00
70	25.750	0.69	0.30	0.21	.18	.49	.75	.59	.11	0.28	0.16	1.38	.00	.00	.00	.00	.00	0.00	0.00	0.00
71	25.650	0.69	0.30	0.21	.18	.49	.75	.59	.11	0.28	0.16	1.38	.00	.00	.00	.00	.00	0.00	0.00	0.00
72	25.550	0.69	0.30	0.21	.18	.50	.75	.60	.11	0.28	0.16	1.39	.00	.00	.00	.00	.00	0.00	0.00	0.00
73	25.450	0.69	0.30	0.21	.18	.50	.74	.60	.11	0.29	0.16	1.39	.00	.00	.00	.00	.00	0.00	0.00	0.00
74	25.350	0.69	0.31	0.21	.18	.50	.74	.60	.11	0.29	0.16	1.39	.00	.00	.00	.00	.00	0.00	0.00	0.00
75	25.250	0.69	0.31	0.21	.18	.50	.74	.60	.11	0.29	0.16	1.40	.00	.00	.00	.00	.00	0.00	0.00	0.00
20 DEG C RATE				0.50						1.62	0.10							0.00	0.00	

NOTE ON NITR PREF: 1.0=NO3 ; 0.0=NH3

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FINAL REPORT Lake Des Allemands
REACH NO. 8 Bayou Des Allemands

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW CMS	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	PHOS MG/L	CHL A UG/L	COLI #/100ML	NCM *
76	UPR RCH	26.8000	30.80	0.27	427.0	0.0	5.07	1.77	1.77	1.37	0.21	0.09	0.12	29.2	0.	0.00

66	UPR RCH	26.8000	30.80	0.27	427.0	0.0	5.16	1.90	1.90	1.39	0.20	0.08	0.12	30.1	0.	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST KM	ENDING DIST KM	FLOW CMS	PCT EFF	ADVCTV VELO M/S	TRAVEL TIME DAYS	DEPTH M	WIDTH M	VOLUME CU M	SURFACE AREA SQ M	X-SECT AREA SQ M	TIDAL PRISM CU M	TIDAL VELO M/S	DISPRSN SQ M/S	MEAN VELO M/S
76	25.25	25.15	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
77	25.15	25.05	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
78	25.05	24.95	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
79	24.95	24.85	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
80	24.85	24.75	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
81	24.75	24.65	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
82	24.65	24.55	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
83	24.55	24.45	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
84	24.45	24.35	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
85	24.35	24.25	26.8000	0.0	0.033	0.03	3.08	259.7	80000.	25974.0	800.0	0.	0.000	4.500	0.033
TOT						0.35			800000.	259740.3					
AVG					0.033		3.08	259.7			800.0				
CUM						4.68									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. MG/L	REAER RATE 1/DA	CBOD DECAY 1/DA	CBOD SETT 1/DA	ANBOD DECAY 1/DA	FULL SOD *	CORR SOD *	ORGN DECAY 1/DA	ORGN SETT 1/DA	NH3 DECAY 1/DA	NH3 SRCE *	DENIT RATE 1/DA	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/DA	NCM DECAY 1/DA	NCM SETT 1/DA
76	25.150	7.44	0.37	0.23	0.00	0.00	2.39	2.39	0.03	0.00	0.19	0.11	0.00	0.00	0.23	0.00	0.00	0.00	0.00
77	25.050	7.44	0.37	0.23	0.00	0.00	2.39	2.39	0.03	0.00	0.19	0.11	0.00	0.00	0.23	0.00	0.00	0.00	0.00
78	24.950	7.44	0.37	0.23	0.00	0.00	2.39	2.39	0.03	0.00	0.19	0.11	0.00	0.00	0.23	0.00	0.00	0.00	0.00
79	24.850	7.44	0.37	0.23	0.00	0.00	2.38	2.38	0.03	0.00	0.19	0.11	0.00	0.00	0.24	0.00	0.00	0.00	0.00
80	24.750	7.44	0.37	0.23	0.00	0.00	2.38	2.38	0.03	0.00	0.19	0.11	0.00	0.00	0.24	0.00	0.00	0.00	0.00
81	24.650	7.44	0.37	0.23	0.00	0.00	2.37	2.37	0.03	0.00	0.19	0.11	0.00	0.00	0.24	0.00	0.00	0.00	0.00
82	24.550	7.44	0.37	0.23	0.00	0.00	2.37	2.37	0.03	0.00	0.19	0.11	0.00	0.00	0.24	0.00	0.00	0.00	0.00
83	24.450	7.44	0.37	0.23	0.00	0.00	2.37	2.37	0.03	0.00	0.19	0.11	0.00	0.00	0.24	0.00	0.00	0.00	0.00
84	24.350	7.44	0.37	0.23	0.00	0.00	2.36	2.36	0.03	0.00	0.19	0.11	0.00	0.00	0.24	0.00	0.00	0.00	0.00
85	24.250	7.44	0.37	0.23	0.00	0.00	2.36	2.36	0.03	0.00	0.19	0.11	0.00	0.00	0.24	0.00	0.00	0.00	0.00
20 DEG C RATE				0.14		0.00		0.45	0.02		0.10	0.05	0.00	0.00			0.00	0.00	
AVG 20 DEG C RATE			0.30		0.00					0.00									0.00

* G/SQ M/D ** MG/L/DAY

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM	ENDING	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	TOTN	PHOS	CHL A	MACRO	COLI	NCM

ELEM	ENDING	TEMP	SALN	CM-I	CM-II	DO	BOD	EBOD	ORGN	NH3	NO3+2	TOTN	PHOS	CHL A	MACRO	COLI	NCM

NO.	DIST	DEG C	PPT	*	*	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L	**	#/100ML	*
76	25.150	30.80	0.3	427.0	0.0	5.07	1.75	1.75	1.37	0.21	0.09	1.67	0.12	29.1	0.0	0.	0.00
77	25.050	30.80	0.3	427.0	0.0	5.06	1.74	1.74	1.37	0.21	0.09	1.67	0.12	29.1	0.0	0.	0.00
78	24.950	30.80	0.3	427.0	0.0	5.05	1.73	1.73	1.36	0.21	0.10	1.67	0.12	29.0	0.0	0.	0.00
79	24.850	30.80	0.3	427.0	0.0	5.04	1.72	1.72	1.36	0.21	0.10	1.67	0.12	28.9	0.0	0.	0.00
80	24.750	30.80	0.3	427.0	0.0	5.04	1.71	1.71	1.36	0.22	0.10	1.67	0.12	28.8	0.0	0.	0.00
81	24.650	30.80	0.3	427.0	0.0	5.03	1.70	1.70	1.36	0.22	0.10	1.67	0.12	28.7	0.0	0.	0.00
82	24.550	30.80	0.3	427.0	0.0	5.02	1.68	1.68	1.36	0.22	0.10	1.68	0.12	28.7	0.0	0.	0.00
83	24.450	30.80	0.3	427.0	0.0	5.02	1.67	1.67	1.36	0.22	0.10	1.68	0.12	28.6	0.0	0.	0.00
84	24.350	30.80	0.3	427.0	0.0	5.01	1.66	1.66	1.36	0.22	0.10	1.68	0.12	28.5	0.0	0.	0.00
85	24.250	30.80	0.3	427.0	0.0	5.01	1.65	1.65	1.35	0.22	0.10	1.68	0.12	28.4	0.0	0.	0.00

* CM-I = cond umhos CM-II = NCM =
** G/CU M

********** ALGAE AND MACROPHYTE DATA **********

ELEM NO.	ENDING DIST	SECCHI DEPTH M	NITR PREF	ALG SETT 1/DA	ALG LIT LIM	ALG N LIM	ALG P LIM	ALG N&P LIM	ALG TOT LIM	ALG GROW 1/DA	ALG RESP 1/DA	A P/R RATIO	MAC LIT LIM	MAC N LIM	MAC P LIM	MAC N&P LIM	MAC TOT LIM	MAC GROW 1/DA	MAC RESP 1/DA	M P/R RATIO
76	25.150	0.69	0.31	0.21	.18	.50	.74	.60	.11	0.29	0.16	1.40	.00	.00	.00	.00	.00	0.00	0.00	0.00
77	25.050	0.69	0.31	0.21	.18	.50	.74	.60	.11	0.29	0.16	1.41	.00	.00	.00	.00	.00	0.00	0.00	0.00
78	24.950	0.69	0.31	0.21	.18	.51	.74	.60	.11	0.29	0.16	1.41	.00	.00	.00	.00	.00	0.00	0.00	0.00
79	24.850	0.69	0.31	0.21	.18	.51	.74	.60	.11	0.29	0.16	1.41	.00	.00	.00	.00	.00	0.00	0.00	0.00
80	24.750	0.69	0.31	0.21	.18	.51	.74	.61	.11	0.29	0.16	1.42	.00	.00	.00	.00	.00	0.00	0.00	0.00
81	24.650	0.69	0.31	0.21	.18	.51	.74	.61	.11	0.29	0.16	1.42	.00	.00	.00	.00	.00	0.00	0.00	0.00
82	24.550	0.69	0.31	0.21	.18	.51	.74	.61	.11	0.29	0.16	1.42	.00	.00	.00	.00	.00	0.00	0.00	0.00
83	24.450	0.69	0.31	0.21	.18	.51	.74	.61	.11	0.29	0.16	1.43	.00	.00	.00	.00	.00	0.00	0.00	0.00
84	24.350	0.69	0.31	0.21	.18	.52	.74	.61	.11	0.29	0.16	1.43	.00	.00	.00	.00	.00	0.00	0.00	0.00
85	24.250	0.69	0.32	0.21	.18	.52	.74	.61	.11	0.29	0.16	1.43	.00	.00	.00	.00	.00	0.00	0.00	0.00
20 DEG C RATE				0.50						1.62	0.10							0.00	0.00	

NOTE ON NITR PREF: 1.0=NO3 ; 0.0=NH3

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FINAL REPORT Lake Des Allemands
REACH NO. 9 Bayou Des Allemands

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW CMS	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	PHOS MG/L	CHL A UG/L	COLI #/100ML	NCM *
86	UPR RCH	26.8000	30.80	0.27	427.0	0.0	5.01	1.65	1.65	1.35	0.22	0.10	0.12	28.4	0.	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST KM	ENDING DIST KM	FLOW CMS	PCT EFF	ADVCTV VELO M/S	TRAVEL TIME DAYS	DEPTH M	WIDTH M	VOLUME CU M	SURFACE AREA SQ M	X-SECT AREA SQ M	TIDAL PRISM CU M	TIDAL VELO M/S	DISPRSN SQ M/S	MEAN VELO M/S
86	24.25	24.15	26.8000	0.0	0.037	0.03	2.79	259.7	72464.	25972.7	724.6	0.	0.000	4.500	0.037
87	24.15	24.05	26.8000	0.0	0.037	0.03	2.79	259.7	72464.	25972.7	724.6	0.	0.000	4.500	0.037
88	24.05	23.95	26.8000	0.0	0.037	0.03	2.79	259.7	72464.	25972.7	724.6	0.	0.000	4.500	0.037
89	23.95	23.85	26.8000	0.0	0.037	0.03	2.79	259.7	72464.	25972.7	724.6	0.	0.000	4.500	0.037
90	23.85	23.75	26.8000	0.0	0.037	0.03	2.79	259.7	72464.	25972.7	724.6	0.	0.000	4.500	0.037
91	23.75	23.65	26.8000	0.0	0.037	0.03	2.79	259.7	72464.	25972.7	724.6	0.	0.000	4.500	0.037
92	23.65	23.55	26.8000	0.0	0.037	0.03	2.79	259.7	72464.	25972.7	724.6	0.	0.000	4.500	0.037
93	23.55	23.45	26.8000	0.0	0.037	0.03	2.79	259.7	72464.	25972.7	724.6	0.	0.000	4.500	0.037
94	23.45	23.35	26.8000	0.0	0.037	0.03	2.79	259.7	72464.	25972.7	724.6	0.	0.000	4.500	0.037
95	23.35	23.25	26.8000	0.0	0.037	0.03	2.79	259.7	72464.	25972.7	724.6	0.	0.000	4.500	0.037
TOT						0.31			724638.	259726.8					
AVG					0.037		2.79	259.7			724.6				
CUM						5.00									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. MG/L	REAER RATE 1/DA	CBOD DECAY 1/DA	CBOD SETT 1/DA	ANBOD DECAY 1/DA	FULL SOD *	CORR SOD *	ORGN DECAY 1/DA	ORGN SETT 1/DA	NH3 DECAY 1/DA	NH3 SRCE *	DENIT RATE 1/DA	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/DA	NCM DECAY 1/DA	NCM SETT 1/DA
86	24.150	7.44	0.41	0.23	0.00	0.00	2.26	2.26	0.03	0.00	0.19	0.12	0.00	0.00	0.33	0.00	0.00	0.00	0.00
87	24.050	7.44	0.41	0.23	0.00	0.00	2.25	2.25	0.03	0.00	0.19	0.12	0.00	0.00	0.33	0.00	0.00	0.00	0.00
88	23.950	7.44	0.41	0.23	0.00	0.00	2.25	2.25	0.03	0.00	0.19	0.12	0.00	0.00	0.33	0.00	0.00	0.00	0.00
89	23.850	7.44	0.41	0.23	0.00	0.00	2.25	2.25	0.03	0.00	0.19	0.12	0.00	0.00	0.33	0.00	0.00	0.00	0.00
90	23.750	7.44	0.41	0.23	0.00	0.00	2.24	2.24	0.03	0.00	0.19	0.12	0.00	0.00	0.33	0.00	0.00	0.00	0.00
91	23.650	7.44	0.41	0.23	0.00	0.00	2.24	2.24	0.03	0.00	0.19	0.12	0.00	0.00	0.33	0.00	0.00	0.00	0.00
92	23.550	7.44	0.41	0.23	0.00	0.00	2.24	2.24	0.03	0.00	0.19	0.12	0.00	0.00	0.33	0.00	0.00	0.00	0.00
93	23.450	7.44	0.41	0.23	0.00	0.00	2.24	2.24	0.03	0.00	0.19	0.12	0.00	0.00	0.33	0.00	0.00	0.00	0.00
94	23.350	7.44	0.41	0.23	0.00	0.00	2.23	2.23	0.03	0.00	0.19	0.12	0.00	0.00	0.33	0.00	0.00	0.00	0.00
95	23.250	7.44	0.41	0.23	0.00	0.00	2.23	2.23	0.03	0.00	0.19	0.12	0.00	0.00	0.33	0.00	0.00	0.00	0.00
20 DEG C RATE				0.14		0.00		0.40	0.02		0.10	0.05	0.00	0.00			0.00	0.00	
AVG 20 DEG C RATE			0.33		0.00					0.00									0.00

* G/SQ M/D ** MG/L/DAY

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	TOTN MG/L	PHOS MG/L	CHL A UG/L	MACRO **	COLI #/100ML	NCM *

NO.	DIST	DEG C	PPT	*	*	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L	**	#/100ML	*

86	24.150	30.80	0.3	427.0	0.0	5.01	1.64	1.64	1.35	0.22	0.10	1.68	0.12	28.4	0.0	0.	0.00
87	24.050	30.80	0.3	427.0	0.0	5.01	1.63	1.63	1.35	0.22	0.10	1.68	0.12	28.3	0.0	0.	0.00
88	23.950	30.80	0.3	427.0	0.0	5.01	1.62	1.62	1.35	0.22	0.10	1.68	0.12	28.3	0.0	0.	0.00
89	23.850	30.80	0.3	427.0	0.0	5.00	1.61	1.61	1.35	0.23	0.11	1.68	0.12	28.2	0.0	0.	0.00
90	23.750	30.80	0.3	427.0	0.0	5.00	1.60	1.60	1.35	0.23	0.11	1.68	0.12	28.1	0.0	0.	0.00
91	23.650	30.80	0.3	427.0	0.0	5.00	1.59	1.59	1.35	0.23	0.11	1.68	0.12	28.1	0.0	0.	0.00
92	23.550	30.80	0.3	427.0	0.0	5.00	1.58	1.58	1.34	0.23	0.11	1.68	0.12	28.0	0.0	0.	0.00
93	23.450	30.80	0.3	427.0	0.0	5.00	1.57	1.57	1.34	0.23	0.11	1.68	0.12	28.0	0.0	0.	0.00
94	23.350	30.80	0.3	427.0	0.0	5.00	1.56	1.56	1.34	0.23	0.11	1.68	0.12	27.9	0.0	0.	0.00
95	23.250	30.80	0.3	427.0	0.0	5.00	1.56	1.56	1.34	0.23	0.11	1.68	0.12	27.9	0.0	0.	0.00

* CM-I = cond umhos CM-II = NCM =

** G/CU M

********** ALGAE AND MACROPHYTE DATA **********

ELEM NO.	ENDING DIST	SECCHI DEPTH M	NITR PREF	ALG SETT 1/DA	ALG LIT LIM	ALG N LIM	ALG P LIM	ALG N&P LIM	ALG TOT LIM	ALG GROW 1/DA	ALG RESP 1/DA	A P/R RATIO	MAC LIT LIM	MAC N LIM	MAC P LIM	MAC N&P LIM	MAC TOT LIM	MAC GROW 1/DA	MAC RESP 1/DA	M P/R RATIO
86	24.150	0.69	0.32	0.23	.20	.52	.74	.61	.12	0.32	0.16	1.58	.00	.00	.00	.00	.00	0.00	0.00	0.00
87	24.050	0.69	0.32	0.23	.20	.52	.74	.61	.12	0.33	0.16	1.58	.00	.00	.00	.00	.00	0.00	0.00	0.00
88	23.950	0.69	0.32	0.23	.20	.52	.74	.61	.12	0.33	0.16	1.59	.00	.00	.00	.00	.00	0.00	0.00	0.00
89	23.850	0.69	0.32	0.23	.20	.52	.74	.61	.12	0.33	0.16	1.59	.00	.00	.00	.00	.00	0.00	0.00	0.00
90	23.750	0.69	0.32	0.23	.20	.53	.74	.62	.12	0.33	0.16	1.59	.00	.00	.00	.00	.00	0.00	0.00	0.00
91	23.650	0.69	0.32	0.23	.20	.53	.74	.62	.12	0.33	0.16	1.60	.00	.00	.00	.00	.00	0.00	0.00	0.00
92	23.550	0.70	0.32	0.23	.20	.53	.74	.62	.12	0.33	0.16	1.60	.00	.00	.00	.00	.00	0.00	0.00	0.00
93	23.450	0.70	0.32	0.23	.20	.53	.74	.62	.12	0.33	0.16	1.60	.00	.00	.00	.00	.00	0.00	0.00	0.00
94	23.350	0.70	0.32	0.23	.20	.53	.74	.62	.12	0.33	0.16	1.61	.00	.00	.00	.00	.00	0.00	0.00	0.00
95	23.250	0.70	0.32	0.23	.20	.53	.74	.62	.12	0.33	0.16	1.61	.00	.00	.00	.00	.00	0.00	0.00	0.00
20 DEG C RATE				0.50						1.62	0.10							0.00	0.00	

NOTE ON NITR PREF: 1.0=NO3 ; 0.0=NH3

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FINAL REPORT Lake Des Allemands
REACH NO. 10 Bayou Des Allemands

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW CMS	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	PHOS MG/L	CHL A UG/L	COLI #/100ML	NCM *
96	UPR RCH	26.8000	30.80	0.27	427.0	0.0	5.00	1.56	1.56	1.34	0.23	0.11	0.12	27.9	0.	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST KM	ENDING DIST KM	FLOW CMS	PCT EFF	ADVCTV VELO M/S	TRAVEL TIME DAYS	DEPTH M	WIDTH M	VOLUME CU M	SURFACE AREA SQ M	X-SECT AREA SQ M	TIDAL PRISM CU M	TIDAL VELO M/S	DISPRSN SQ M/S	MEAN VELO M/S
96	23.25	23.15	26.8000	0.0	0.041	0.03	2.50	259.7	64935.	25974.0	649.4	0.	0.000	4.500	0.041
97	23.15	23.05	26.8000	0.0	0.041	0.03	2.50	259.7	64935.	25974.0	649.4	0.	0.000	4.500	0.041
98	23.05	22.95	26.8000	0.0	0.041	0.03	2.50	259.7	64935.	25974.0	649.4	0.	0.000	4.500	0.041
99	22.95	22.85	26.8000	0.0	0.041	0.03	2.50	259.7	64935.	25974.0	649.4	0.	0.000	4.500	0.041
100	22.85	22.75	26.8000	0.0	0.041	0.03	2.50	259.7	64935.	25974.0	649.4	0.	0.000	4.500	0.041
101	22.75	22.65	26.8000	0.0	0.041	0.03	2.50	259.7	64935.	25974.0	649.4	0.	0.000	4.500	0.041
102	22.65	22.55	26.8000	0.0	0.041	0.03	2.50	259.7	64935.	25974.0	649.4	0.	0.000	4.500	0.041
103	22.55	22.45	26.8000	0.0	0.041	0.03	2.50	259.7	64935.	25974.0	649.4	0.	0.000	4.500	0.041
104	22.45	22.35	26.8000	0.0	0.041	0.03	2.50	259.7	64935.	25974.0	649.4	0.	0.000	4.500	0.041
105	22.35	22.25	26.8000	0.0	0.041	0.03	2.50	259.7	64935.	25974.0	649.4	0.	0.000	4.500	0.041
TOT						0.28			649351.	259740.3					
AVG					0.041		2.50	259.7			649.4				
CUM						5.28									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. MG/L	REAER RATE 1/DA	CBOD DECAY 1/DA	CBOD SETT 1/DA	ANBOD DECAY 1/DA	FULL SOD *	CORR SOD *	ORGN DECAY 1/DA	ORGN SETT 1/DA	NH3 DECAY 1/DA	NH3 SRCE *	DENIT RATE 1/DA	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/DA	NCM DECAY 1/DA	NCM SETT 1/DA
96	23.150	7.44	0.45	0.23	0.00	0.00	2.13	2.13	0.03	0.00	0.19	0.13	0.00	0.00	0.43	0.00	0.00	0.00	0.00
97	23.050	7.44	0.45	0.23	0.00	0.00	2.13	2.13	0.03	0.00	0.19	0.13	0.00	0.00	0.43	0.00	0.00	0.00	0.00
98	22.950	7.44	0.45	0.23	0.00	0.00	2.13	2.13	0.03	0.00	0.19	0.13	0.00	0.00	0.44	0.00	0.00	0.00	0.00
99	22.850	7.44	0.45	0.23	0.00	0.00	2.12	2.12	0.03	0.00	0.19	0.13	0.00	0.00	0.44	0.00	0.00	0.00	0.00
100	22.750	7.44	0.45	0.23	0.00	0.00	2.12	2.12	0.03	0.00	0.19	0.13	0.00	0.00	0.44	0.00	0.00	0.00	0.00
101	22.650	7.44	0.45	0.23	0.00	0.00	2.12	2.12	0.03	0.00	0.19	0.13	0.00	0.00	0.44	0.00	0.00	0.00	0.00
102	22.550	7.44	0.45	0.23	0.00	0.00	2.12	2.12	0.03	0.00	0.19	0.13	0.00	0.00	0.44	0.00	0.00	0.00	0.00
103	22.450	7.44	0.45	0.23	0.00	0.00	2.12	2.12	0.03	0.00	0.19	0.13	0.00	0.00	0.44	0.00	0.00	0.00	0.00
104	22.350	7.44	0.45	0.23	0.00	0.00	2.11	2.11	0.03	0.00	0.19	0.13	0.00	0.00	0.44	0.00	0.00	0.00	0.00
105	22.250	7.44	0.45	0.23	0.00	0.00	2.11	2.11	0.03	0.00	0.19	0.13	0.00	0.00	0.44	0.00	0.00	0.00	0.00
20 DEG C RATE				0.14		0.00		0.35	0.02		0.10	0.06	0.00	0.00			0.00	0.00	
AVG 20 DEG C RATE			0.37		0.00					0.00									0.00

* G/SQ M/D ** MG/L/DAY

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	TOTN MG/L	PHOS MG/L	CHL A UG/L	MACRO **	COLI #/100ML	NCM *

96	23.150	30.80	0.3	427.0	0.0	5.01	1.55	1.55	1.34	0.23	0.11	1.68	0.12	27.8	0.0	0.	0.00
97	23.050	30.80	0.3	427.0	0.0	5.01	1.54	1.54	1.34	0.23	0.11	1.68	0.11	27.8	0.0	0.	0.00
98	22.950	30.80	0.3	427.0	0.0	5.02	1.53	1.53	1.34	0.23	0.11	1.68	0.11	27.8	0.0	0.	0.00
99	22.850	30.80	0.3	427.0	0.0	5.02	1.52	1.52	1.34	0.24	0.11	1.69	0.11	27.7	0.0	0.	0.00
100	22.750	30.80	0.3	427.0	0.0	5.02	1.52	1.52	1.33	0.24	0.11	1.69	0.11	27.7	0.0	0.	0.00
101	22.650	30.80	0.3	427.0	0.0	5.03	1.51	1.51	1.33	0.24	0.12	1.69	0.11	27.6	0.0	0.	0.00
102	22.550	30.80	0.3	427.0	0.0	5.03	1.50	1.50	1.33	0.24	0.12	1.69	0.11	27.6	0.0	0.	0.00
103	22.450	30.80	0.3	427.0	0.0	5.04	1.49	1.49	1.33	0.24	0.12	1.69	0.11	27.6	0.0	0.	0.00
104	22.350	30.80	0.3	427.0	0.0	5.04	1.49	1.49	1.33	0.24	0.12	1.69	0.11	27.5	0.0	0.	0.00
105	22.250	30.80	0.3	427.0	0.0	5.04	1.48	1.48	1.33	0.24	0.12	1.69	0.11	27.5	0.0	0.	0.00

* CM-I = cond umhos CM-II = NCM =
** G/CU M

********** ALGAE AND MACROPHYTE DATA **********

ELEM NO.	ENDING DIST	SECCHI DEPTH M	NITR PREF	ALG SETT 1/DA	ALG LIT LIM	ALG N LIM	ALG P LIM	ALG N&P LIM	ALG TOT LIM	ALG GROW 1/DA	ALG RESP 1/DA	A P/R RATIO	MAC LIT LIM	MAC N LIM	MAC P LIM	MAC N&P LIM	MAC TOT LIM	MAC GROW 1/DA	MAC RESP 1/DA	M P/R RATIO
96	23.150	0.70	0.32	0.26	.22	.53	.74	.62	.14	0.37	0.16	1.79	.00	.00	.00	.00	.00	0.00	0.00	0.00
97	23.050	0.70	0.32	0.26	.22	.54	.74	.62	.14	0.37	0.16	1.79	.00	.00	.00	.00	.00	0.00	0.00	0.00
98	22.950	0.70	0.32	0.26	.22	.54	.74	.62	.14	0.37	0.16	1.80	.00	.00	.00	.00	.00	0.00	0.00	0.00
99	22.850	0.70	0.32	0.26	.22	.54	.74	.62	.14	0.37	0.16	1.80	.00	.00	.00	.00	.00	0.00	0.00	0.00
100	22.750	0.70	0.33	0.26	.22	.54	.74	.62	.14	0.37	0.16	1.80	.00	.00	.00	.00	.00	0.00	0.00	0.00
101	22.650	0.70	0.33	0.26	.22	.54	.74	.63	.14	0.37	0.16	1.80	.00	.00	.00	.00	.00	0.00	0.00	0.00
102	22.550	0.70	0.33	0.26	.22	.54	.74	.63	.14	0.37	0.16	1.81	.00	.00	.00	.00	.00	0.00	0.00	0.00
103	22.450	0.70	0.33	0.26	.22	.54	.74	.63	.14	0.37	0.16	1.81	.00	.00	.00	.00	.00	0.00	0.00	0.00
104	22.350	0.70	0.33	0.26	.22	.54	.74	.63	.14	0.37	0.16	1.81	.00	.00	.00	.00	.00	0.00	0.00	0.00
105	22.250	0.70	0.33	0.26	.22	.54	.74	.63	.14	0.37	0.16	1.81	.00	.00	.00	.00	.00	0.00	0.00	0.00
20 DEG C RATE				0.50						1.62	0.10							0.00	0.00	

NOTE ON NITR PREF: 1.0=NO3 ; 0.0=NH3

1
FINAL REPORT Lake Des Allemands
REACH NO. 11 Bayou Des Allemands

QUAL-TX summer projection simulation, Upper Bayou Des Allemands, Projection Run

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW CMS	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	PHOS MG/L	CHL A UG/L	COLI #/100ML	NCM *
106	UPR RCH	26.8000	30.80	0.28	427.0	0.0	5.04	1.48	1.48	1.33	0.24	0.12	0.11	27.5	0.	0.00
112	WSTLD	0.0005	30.80	0.00	503.0	0.0	2.00	60.00	60.00	5.00	10.00	10.00	5.00	0.0	0.	0.00

********** HYDRAULIC PARAMETER VALUES **********

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST KM	ENDING DIST KM	FLOW CMS	PCT EFF	ADVCTV VELO M/S	TRAVEL TIME DAYS	DEPTH M	WIDTH M	VOLUME CU M	SURFACE AREA SQ M	X-SECT AREA SQ M	TIDAL PRISM CU M	TIDAL VELO M/S	DISPRSN SQ M/S	MEAN VELO M/S
106	22.25	22.15	26.8000	0.0	0.099	0.01	2.50	108.7	27174.	10869.6	271.7	0.	0.000	4.500	0.099
107	22.15	22.05	26.8000	0.0	0.099	0.01	2.50	108.7	27174.	10869.6	271.7	0.	0.000	4.500	0.099
108	22.05	21.95	26.8000	0.0	0.099	0.01	2.50	108.7	27174.	10869.6	271.7	0.	0.000	4.500	0.099
109	21.95	21.85	26.8000	0.0	0.099	0.01	2.50	108.7	27174.	10869.6	271.7	0.	0.000	4.500	0.099
110	21.85	21.75	26.8000	0.0	0.099	0.01	2.50	108.7	27174.	10869.6	271.7	0.	0.000	4.500	0.099
111	21.75	21.65	26.8000	0.0	0.099	0.01	2.50	108.7	27174.	10869.6	271.7	0.	0.000	4.500	0.099
112	21.65	21.55	26.8005	0.0	0.099	0.01	2.50	108.7	27174.	10869.6	271.7	0.	0.000	4.500	0.099
TOT						0.08			190217.	76087.0					
AVG					0.099		2.50	108.7			271.7				
CUM						5.36									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. MG/L	REAER RATE 1/DA	CBOD DECAY 1/DA	CBOD SETT 1/DA	ANBOD DECAY 1/DA	FULL SOD *	CORR SOD *	ORGN DECAY 1/DA	ORGN SETT 1/DA	NH3 DECAY 1/DA	NH3 SRCE *	DENIT RATE 1/DA	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/DA	NCM DECAY 1/DA	NCM SETT 1/DA
106	22.150	7.44	0.45	0.23	0.00	0.00	2.01	2.01	0.03	0.00	0.19	0.14	0.00	0.00	0.44	0.00	0.00	0.00	0.00
107	22.050	7.44	0.45	0.23	0.00	0.00	2.01	2.01	0.03	0.00	0.19	0.14	0.00	0.00	0.44	0.00	0.00	0.00	0.00
108	21.950	7.44	0.45	0.23	0.00	0.00	2.01	2.01	0.03	0.00	0.19	0.14	0.00	0.00	0.44	0.00	0.00	0.00	0.00
109	21.850	7.44	0.45	0.23	0.00	0.00	2.01	2.01	0.03	0.00	0.19	0.14	0.00	0.00	0.44	0.00	0.00	0.00	0.00
110	21.750	7.44	0.45	0.23	0.00	0.00	2.02	2.02	0.03	0.00	0.19	0.14	0.00	0.00	0.45	0.00	0.00	0.00	0.00
111	21.650	7.44	0.45	0.23	0.00	0.00	2.04	2.04	0.03	0.00	0.19	0.14	0.00	0.00	0.46	0.00	0.00	0.00	0.00
112	21.550	7.44	0.45	0.23	0.00	0.00	2.10	2.10	0.03	0.00	0.19	0.14	0.00	0.00	0.50	0.00	0.00	0.00	0.00
20 DEG C RATE				0.14		0.00		0.30	0.02		0.10	0.06	0.00	0.00			0.00	0.00	
AVG 20 DEG C RATE			0.37		0.00					0.00									0.00

* G/SQ M/D ** MG/L/DAY

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I *	CM-II *	DO MG/L	BOD MG/L	EBOD MG/L	ORGN MG/L	NH3 MG/L	NO3+2 MG/L	TOTN MG/L	PHOS MG/L	CHL A UG/L	MACRO **	COLI #/100ML	NCM *
106	22.150	30.80	0.3	427.0	0.0	5.04	1.48	1.48	1.33	0.24	0.12	1.69	0.11	27.5	0.0	0.	0.00
107	22.050	30.80	0.3	427.1	0.0	5.05	1.48	1.48	1.33	0.24	0.12	1.69	0.11	27.5	0.0	0.	0.00
108	21.950	30.80	0.3	427.3	0.0	5.05	1.48	1.48	1.33	0.24	0.12	1.69	0.11	27.5	0.0	0.	0.00
109	21.850	30.80	0.3	428.0	0.0	5.05	1.50	1.50	1.33	0.25	0.12	1.69	0.11	27.5	0.0	0.	0.00
110	21.750	30.80	0.3	430.1	0.0	5.06	1.58	1.58	1.32	0.25	0.12	1.69	0.11	27.6	0.0	0.	0.00
111	21.650	30.80	0.3	436.9	0.0	5.07	1.81	1.81	1.32	0.27	0.11	1.70	0.11	28.0	0.0	0.	0.00

96	23.150	30.80	0.3	427.0	0.0	5.01	1.55	1.55	1.34	0.23	0.11	1.68	0.13	27.8	0.0	0.	0.00

112	21.550	30.80	0.3	458.5	0.0	5.10	2.57	2.57	1.30	0.33	0.09	1.72	0.12	29.1	0.0	0.	0.00

* CM-I = cond umhos CM-II = NCM =
** G/CU M

********** ALGAE AND MACROPHYTE DATA **********

ELEM NO.	ENDING DIST	SECCHI DEPTH M	NITR PREF	ALG SETT 1/DA	ALG LIT LIM	ALG N LIM	ALG P LIM	ALG N&P LIM	ALG TOT LIM	ALG GROW 1/DA	ALG RESP 1/DA	A P/R RATIO	MAC LIT LIM	MAC N LIM	MAC P LIM	MAC N&P LIM	MAC TOT LIM	MAC GROW 1/DA	MAC RESP 1/DA	M P/R RATIO
106	22.150	0.70	0.33	0.26	.22	.55	.74	.63	.14	0.37	0.16	1.81	.00	.00	.00	.00	.00	0.00	0.00	0.00
107	22.050	0.70	0.33	0.26	.22	.55	.74	.63	.14	0.37	0.16	1.82	.00	.00	.00	.00	.00	0.00	0.00	0.00
108	21.950	0.70	0.33	0.26	.22	.55	.74	.63	.14	0.37	0.16	1.82	.00	.00	.00	.00	.00	0.00	0.00	0.00
109	21.850	0.70	0.32	0.26	.22	.55	.74	.63	.14	0.37	0.16	1.82	.00	.00	.00	.00	.00	0.00	0.00	0.00
110	21.750	0.70	0.32	0.26	.22	.55	.74	.63	.14	0.37	0.16	1.82	.00	.00	.00	.00	.00	0.00	0.00	0.00
111	21.650	0.70	0.29	0.26	.22	.56	.74	.64	.14	0.38	0.16	1.83	.00	.00	.00	.00	.00	0.00	0.00	0.00
112	21.550	0.69	0.21	0.26	.22	.58	.74	.65	.14	0.38	0.16	1.86	.00	.00	.00	.00	.00	0.00	0.00	0.00
20 DEG C RATE				0.50						1.62	0.10							0.00	0.00	

NOTE ON NITR PREF: 1.0=NO3 ; 0.0=NH3

1
QUAL-TX summer projection simulation, Upper Bayou Des Allemands,
Projection Run

INPUT/OUTPUT LOADING SUMMARY

	FLOW CMS	DO KG/D	BOD KG/D	ORG-N KG/D	NH3-N KG/D	NO3-N KG/D	PHOS KG/D	CHL A KG/D	NCM
HEADWATER INFLOW	26.800	15537.1	8775.8	3658.5	277.9	115.8	277.9	118091.5	0.0
INCREMENTAL INFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCREMENTAL OUTFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NON-POINT INPUT		0.0	1597.5	0.0					0.0
WASTELOADS	0.001	0.1	2.9	0.2	0.5	0.5	0.2	0.0	0.0
WITHDRAWLS	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OUTFLOW THRU LOWER BNDRY	-26.801	-11814.8	-5954.9	-3009.0	-770.8	-201.0	-270.6	-67438.7	0.0
DISPERSION THRU LOWER BNDRY		121.8	2574.4	-62.3	205.2	-77.8	6.7	3964.0	0.0
REAERATION		14308.0							
BACKGROUND BENTHAL		-4830.6							
AEROBIC BOD DECAY		-6995.7	-6995.7						
BOD SETTLING		0.0	0.0						
ANAEROBIC BOD DECAY			0.0						
ORGANIC N HYDROLYSIS		0.0		-587.4	587.4				
ORGANIC N SETTLING				0.0	0.0				
NH3 DECAY		-1751.8			-404.6	404.6			

********** HYDRAULIC PARAMETER VALUES **********

BACKGROUND NH3 SOURCE					342.4				
DENITRIFICATION			0.0			0.0			
PHOSPHORUS SOURCE							59.2		
ALGAE PHOTOSYNTHESIS		15881.2			-601.7	-242.0	-129.0	165429.3	
ALGAE RESPIRATION		-8553.2			363.5		55.6	-71276.9	
ALGAE SETTLING		-11898.2						-148728.0	
MACRO PHOTOSYNTHESIS		0.0			0.0	0.0	0.0		
NCM DECAY		0.0							0.0
NCM SETTLING		0.0							0.0
TOTAL INPUTS	26.801	45848.3	12950.5	3658.8	1776.8	520.8	399.6	287484.8	0.0
TOTAL OUTPUTS	-26.801	-45844.3	-12950.5	-3658.8	-1777.0	-520.8	-399.6	-287443.6	0.0
NET CONVERGENCE ERROR	0.000	3.9	0.0	0.0	-0.2	0.0	0.0	41.2	0.0

1

.....EXECUTION COMPLETED

1

112	21.550	30.80	0.3	458.5	0.0	5.10	2.57	2.57	1.30	0.33	0.99	1.72	8.13	28.1	0.0	0	0.00	

APPENDIX Z

TMDL Calculations

NONPOINT SOURCES:

Loads from Benthic Nutrient Sources and NPS Mass Loads:

Reach	Surface Area (m2)	Benthic source rates (g/m2/day):		Loads (kg/day) from benthic sources		NPS mass loads (kg/day)	
		Ammonia N	Phosphorus	Ammonia N	Phosphorus	CBODu	Organic N
1	1807403.5	0.01	0.01	18.07	18.07	600.0	0
2	594841.6	0.01	0.009	5.95	5.35	450.0	0
3	2090300.6	0.02	0.008	41.81	16.72	300.0	0
4	235006.5	0.03	0.005	7.05	1.18	75.0	0
5	260091.5	0.045	0.004	11.70	1.04	15.0	0
6	259645.8	0.05	0.004	12.98	1.04	15.0	0
7	259740.3	0.05	0.004	12.99	1.04	15.0	0
8	259740.3	0.05	0.003	12.99	0.78	37.5	0
9	259726.8	0.055	0.001	14.28	0.26	37.5	0
10	259740.3	0.06	0.001	15.58	0.26	37.5	0
11	76087.0	0.065	0.001	4.95	0.08	15.0	0
Totals:				158.35	45.82	1597.50	0.00

Loads from Headwaters and Tributaries

Name of inflow	Flow (m3/sec)	Concentrations (mg/L)					Loads (kg/day)				
		CBODu	Organic N	Ammonia N	NO2+NO3 N	Phosphorus	CBODu	Organic N	Ammonia N	NO2+NO3 N	Phosphorus
Headwater (from Lac des Allemands)	26.8	3.79	1.58	0.12	0.05	0.12	8775.82	3658.52	277.86	115.78	277.86
Providence Canal	0.0						0.00	0.00	0.00	0.00	0.00
Totals:							8775.82	3658.52	277.86	115.78	277.86
Total Nonpoint Source Loading:							10373.32	3658.52	436.21	115.78	323.68
Nonpoint Source Margin of Safety and Future Growth =				20%	=		2074.66	731.70	87.24	23.16	64.74
Nonpoint Source Load allocation =				80%	=		8298.66	2926.82	348.97	92.62	258.94

Flows and Concentrations from Oxygen Demanding Point Sources:

Name of discharger	Expected flow (MGD)	Expected flow divided by 0.80 (for 20% MOS) (MGD)	(m3/sec)	CBOD5 (mg/L)	CBODu (mg/L)	Organic N (mg/L)	Ammonia N (mg/L)	NO2+NO3 N (mg/L)	Phosphorus (mg/L)
Collier's Fisheries	0.01	0.0125	0.00055	30	69	5	10	10	5
Bridgeline Gas Distr.	0.001	0.00125	0.00005	30	69	5	10	10	5

Notes: 1. Expected flows are assumed values (no information concerning effluent flow rates was available).
2. Conc's for CBOD5, organic N, and ammonia N are based on guidance in LTP assuming secondary treatment with a mechanical system.
3. Concentrations for NO2+NO3 and phosphorus are assumed values.

Loads from Point Sources:

Name of discharger	Flow (m3/sec)	Concentrations (mg/L) CBODu	Organic N	Ammonia N	NO2+NO3 N	Phosphorus	Loads (kg/day) CBODu	Organic N	Ammonia N	NO2+NO3 N	Phosphorus
Collier's Fisheries	0.00055	69	5	10	10	5	3.28	0.24	0.48	0.48	0.24
Bridgeline Gas Distr.	0.00005	69	5	10	10	5	0.30	0.02	0.04	0.04	0.02
Total Loads:							3.58	0.26	0.52	0.52	0.26
Point Source Margin of Safety and Future Growth =				20%	=		0.72	0.05	0.10	0.10	0.05
Point Source Load allocation =				80%	=		2.86	0.21	0.42	0.42	0.21

OVERALL SUMMARY

	Loads (kg/day) CBODu	Organic N	Ammonia N	NO2+NO3 N	Phosphorus
Point source wasteload allocation (WLA)	2.86	0.21	0.42	0.42	0.21
Nonpoint source load allocation (LA)	8298.66	2926.82	348.97	92.62	258.94
Explicit Margin of Safety (10%)	1037.69	365.88	43.67	11.63	32.40
Future Growth (10%)	1037.69	365.87	43.67	11.63	32.39
Total maximum daily load (TMDL)	10376.90	3658.78	436.73	116.30	323.94
Sums for error checking:	10376.90	3658.78	436.73	116.30	323.94

APPENDIX AA

Ammonia Toxicity Calculations

TABLE AA.1. AMMONIA TOXICITY CALCULATIONS FOR UPPER BAYOU DES ALLEMANDS

Equations are from 1999 Update of Ambient Water Quality Criteria for Ammonia
(EPA-822-R-99-014, Dec. 1999).

Use chronic criterion when fish early life stages are present (as mentioned on
page 88, this is the same as CCC for early life stages absent when temp > 15°C)

CCC, in mg N/L = $[0.0577/(1+10^{7.688-pH}) + 2.487/(1+10^{pH-7.688})] * MIN [2.85, 1.45*10^{0.028*(25-T)}]$

Note: CCC is the Chronic Criterion Concentration

pH value used in this calculation is average summer value for LDEQ Station 0292 (see data below).
Temperature value used in calculation is 90th percentile summer value for LDEQ station 0292.

Season	Average pH (su)	Temperature (°C)	Calculated CCC (mg N/L)
Summer	7.51	30.8	1.51

pH values for LDEQ Station 0292:

Summer (May - Oct):

Date	Value
6/11/1991	7.30
10/31/2000	6.71
10/3/2000	7.36
9/12/2000	6.97
8/8/2000	6.85
7/11/2000	7.76
6/13/2000	7.65
8/13/1991	8.30
10/15/1991	7.80
6/16/1992	9.00
8/11/1992	6.80
10/13/1992	6.80
6/15/1993	7.40
8/10/1993	7.90
10/12/1993	7.70
6/14/1994	6.90
8/9/1994	7.30
10/11/1994	7.40
6/13/1995	7.20
8/15/1995	7.30
10/10/1995	7.70
6/11/1996	8.30
8/13/1996	7.90
10/15/1996	7.80
6/10/1997	7.00
8/12/1997	7.70
10/14/1997	7.30
5/9/2000	8.23

Average: 7.51

APPENDIX AB

Responses to Public Comments

COMMENTS AND RESPONSES
BAYOU DES ALLEMANDS TMDLs FOR DO AND NUTRIENTS
March 25, 2005

EPA appreciates all comments concerning these TMDLs. Comments that were received are shown below with EPA responses or notes inserted in a different font.

COMMENTS FROM LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY (LDEQ):

1. Page i - Executive Summary: The first paragraph states, "This report presents a TMDL that has been developed for dissolved oxygen (DO) for Bayou des Allemands (subsegment 020201) in the Ouachita River Basin in northern Louisiana. This paragraph should be revised to list the correct subsegment, basin, and geographic location.

Response: These corrections have been made.

2. Page 2-5 - 2.3 Point Sources: A list of the dischargers should be included in the report. The list should indicate if the facility was modeled or just included in the TMDL. The list should also indicate the permit limits as a result of this TMDL. Any resulting permit limits should be presented in the Executive Summary and section 7.8 Model Results for Projection.

Response: The point source list in Appendix A indicates which facilities were modeled, which ones were included in the TMDLs, and the effluent concentrations that were simulated in the model (which were set equal to permit limits). As stated in the body of the report, the modeling and TMDLs assume no changes to current permit limits for point source discharges.

3. Page 8-1 – 8.0 TMDL Calculations: This section should include discussion concerning how small dischargers should be allocated. An example used by LDEQ is as follows:

"The nonconservative behavior of dissolved oxygen allows many small to remote point source dischargers to be assimilated by their receiving waterbodies before they reach the modeled waterbody. These dischargers are said to have very little to no impact on the modeled waterbody and therefore, they are not included in the model and are not subject to any reductions based on this TMDL. These facilities are permitted in accordance with state regulation and policies that provide adequate protective controls. New similarly insignificant point sources will continue to be issued permits in this manner. Significant existing point source dischargers are either included in the TMDL model or are determined to be insignificant by other modeling. New significant point source dischargers would have to be evaluated individually to determine what impact they have on the impaired waterbody and the appropriate controls."

Response: This text has been added to Section 8.2 of the report.

4. 8.5 Ammonia Toxicity Concerns: Since this waterbody was not listed on the 303(d) list for ammonia, this discussion is unnecessary and should be deleted from the report.

Response: Ammonia toxicity calculations were performed to ensure that the ammonia loadings that will maintain DO standards will not cause any exceedences of the ammonia toxicity criteria. National guidance for ammonia toxicity was used in the absence of any numerical state water quality standards for ammonia. EPA believes this evaluation offers assurances that waters will continue to be free from the effects of toxic substances.

5. 8.5 Ammonia Toxicity Concerns: 4th Line, delete Ouachita River.

Response: This correction has been made.

6. Page 9-1 – 9.0 Other Relevant Information: This section should be updated to include the new 4-year sampling cycle.

Response: Section 9.0 describes LDEQ's 4-year sampling cycle.

7. Dissolved Oxygen / Reaeration: It is stated, "the long term average wind speeds for each month of the year for New Orleans were examined and the lowest values within each season were used to calculate the minimum KL values". A more representative approach would have been to use a seasonal average for each season. DEQ does not use extreme limits for input values for any of the modeling parameters.

Response: Section 303(d) of the Clean Water Act and federal regulations at 40 CFR 130.7 both require TMDLs to account for critical conditions. Using a wind speed that is averaged over a month is not considered extreme, and is consistent with using the 90th percentile temperature and critical low flows.

8. BOD Calculations: Total BOD was calculated using a 20-day cycle. It is the general practice of LDEQ to use a 60 cycle.

Response: Resources were not available for 60 day BOD measurements. Use of 20 day BOD data is widely accepted for TMDLs and is considered appropriate for these TMDLs.

9. BOD Calculations: The CBOD values calculated using the BOD Analysis spreadsheet were overestimated due to the fact that NO2+NO3 data values were not used. The resulting ultimate CBOD values were actually the total ultimate BOD values. At the same time, the nitrogen series was also being simulated. In effect, the nitrogen was expressed in two different parameters.

Response: The CBOD values were calculated from the spreadsheet using CBOD values measured in a lab with a nitrogen inhibitor present in the samples. Therefore, the BOD in the model was truly CBOD, and nitrogenous oxygen demand was simulated only through nitrification of ammonia.

10. BOD Calculations: Settling rates were not used in the model. The effect of settling on dissolved oxygen was simulated by SOD. This is not the general practice of LDEQ.

Response: No available information indicated the necessity for including settling rates for BOD. However, settling was simulated for algae.

11. BOD Calculations: Modified decay rates for CBOD were used rather than the bottle rates due to the fact that the samples "were seeded". This is not the general practice of LDEQ. However, average values may be used for reaches with similar water quality.

Response: For the Bayou des Allemands model, the laboratory CBOD decay rates were averaged over multiple stations but not modified due to seeding of the samples. This comment appears to be based on the Lake Cataouatche model rather than the Bayou des Allemands model.

12. BOD Calculations: Bottle decay rates were apparently not calculated for Organic Nitrogen. This is not the general practice of LDEQ.

Response: For most TMDLs, organic nitrogen decay rates are not determined from laboratory data. The use of a reasonable decay rate from published literature was considered appropriate for these TMDLs.

13. Vector Diagram: A vector diagram should be presented in the report.

Response: A vector diagram was not considered necessary because the Bayou des Allemands model consists of one main stem with no branches.

14. Calibration, Verification, Recalibration, and Projection Graphs: Calibration, verification, and recalibration graphs for dissolved oxygen, CBODU, orthophosporus, and the nitrogen series should be presented in the body of the report.

Response: These graphs can be viewed in the Appendices. There are no requirements for placing graphs in the body of the report.

15. Calibration, Verification, Recalibration, and Projection Graphs: Projection graphs for dissolved oxygen should be presented in the body of the report.

Response: These graphs can be viewed in the Appendices. There are no requirements for placing graphs in the body of the report.

16. Winter Projection: A winter projection should have been performed. LDEQ issues permits based on seasonality.

Response: As discussed in Section 7.1 of the report, summer is the most critical season for meeting the year round standard for DO for this subsegment. Therefore, the summer simulation satisfies the seasonality requirements of the Clean Water Act. The available information for point source discharges indicated that the facilities discharging to this subsegment do not have seasonal permit limits. If any of these facilities wishes to pursue seasonal permit limits, then LDEQ or the permittee can re-run the model to develop seasonal wasteload allocations.

COMMENTS FROM THE GULF RESTORATION NETWORK (GRN):

1. Lack of Implementation Plan and Reasonable Assurances: There is no implementation plan described in these TMDLs at all. I was unable to find any indication of how the necessary reductions in nonpoint source pollution will be obtained. According to EPA guidance, waters impaired primarily by nonpoint sources require a description of its plan for reducing load allocations. Not only do these TMDLs not describe specific BMPs that will be used to achieve the prescribed manmade nonpoint source reductions, there is also no indication of a timeframe for implementation.

Response: Current federal regulations and guidance do not require TMDLs to include implementation plans. The TMDLs in this report do not include implementation plan components, such as descriptions of specific BMPs for reducing nonpoint source oxygen demand or timeframes for implementing BMPs. Although it is EPA's desire for implementation plans to be developed and carried out these TMDLs, time and money were not available to develop implementation plans.

2. Lack of Implementation Plan and Reasonable Assurances: According to EPA guidance, a TMDL can only rely on nonpoint source reductions if reasonable assurances that the nonpoint source load allocations will be achieved are provided. In these TMDLs, there are no reasonable assurances that the 75% nonpoint source reductions for Bayou Des Allemands and 60% nonpoint reductions reductions for Bayou Verret will be achieved.

Response: EPA guidance for TMDLs requires assurances of nonpoint source reductions ONLY when point sources are given less stringent WLAs based on assumptions that nonpoint source loads will actually be reduced. The point source discharges in this subsegment represented an insignificant fraction of the total oxygen demand and their WLAs were not contingent upon any reductions of nonpoint source loads.

3. Narrative Nutrient Criteria Missing from Bayou Des Allemands TMDL: I was unable to find any reference to Louisiana's narrative nutrient criteria in the Bayou Des Allemands TMDL. This seems unusual considering that the TMDL was developed for both dissolved oxygen and nutrients, and the narrative criteria were included in the Lake Cataouatche and Tributaries TMDL. Therefore, we request that this information also be added to the Bayou Des Allemands TMDL.

Response: A description of Louisiana's narrative nutrient criteria has been added to Section 2.2 of the report.

COMMENTS FROM LOUISIANA STATE UNIVERSITY AGRICULTURAL CENTER:

1. Area land use is listed at: 54.8% fresh water marsh; 24.2% wetland forest; 11.9 % water; 5.8% agricultural; and 0.4% urban and the TMDL calls for a 75% reduction in NPS loadings to reach a DO Standard of 5 mg/L. This low DO is clearly a natural condition as total elimination of all loadings from the small percentage of the land area affected by man could not reach one third of the required reductions. The DO standard needs to be revised and lowered to one appropriate for this type system and topography.

Response: In accordance with federal regulations, these TMDLs were developed based on allowable loadings to maintain the existing DO standard (5 mg/L). Even though this subsegment has large percentages of marsh and forest, it is still affected by human alterations to the environment, particularly hydromodification (e.g., lack of inflow of Mississippi River water that is now controlled by levees, dredging of numerous canals and channels, etc.). If LDEQ changes the standards for this subsegment, then these TMDLs can be revised accordingly.

2. All of the data used in making the TMDL determinations are in Appendices which were not available. The Table of Sensitivities used in evaluating the model and showing the most important factors apparently was not done as it is not included and not listed as an Appendix.

Response: All appendices are available (in hard copy format) from EPA upon request. A sensitivity analysis has been added to the report.

3. Again, we request that all of the DO standards for Louisiana streams in low profile areas be reexamined and set at appropriate levels and not an arbitrary numeric standard of 5 mg/l.

Response: As mentioned above, TMDLs must be developed based on existing standards. If LDEQ changes the standards for this subsegment, then these TMDLs can be revised accordingly.

COMMENTS FROM BARATARIA TERREBONNE NATIONAL ESTUARINE PROGRAM (BTNEP):

1. The Barataria-Terrebonne National Estuary Program (BTNEP) requests an extension of the comment period for the TMDL for Bayou des Allemands and Lake Cataouatche noticed in the December 1, 2004 Federal register (Volume 69, Number 230). This TMDL was prepared by a contractor for Region 6 EPA. BTNEP will require more time for a thorough review of these TMDLs and for preparation of comments. With the holidays of this month, a 30 day comment period is insufficient as many staff were out of the office. BTNEP would like to thoroughly review this draft of the TMDL. Therefore, we respectfully request that you extend the comment period for an additional 30 days through February 2, 2005.

BTNEP also requests that EPA Region 6 notify the plaintiffs in the TMDL lawsuit of the need to extend the comment period and to request an extension of the consent decree deadline for the completion of the Barataria Basin TMDLs

The BTNEP is very concerned about the potential impacts that TMDLs for nutrients and sediment may have on Louisiana's coastal restoration efforts. The BTNEP is intimately involved in coastal restoration efforts and represents a partnership of 42 public and private agency partners in the effort for coastal and estuarine restoration. Although we do not speak for each agency partner, we have serious concerns about the effect that TMDLs may have on current and future coastal restoration efforts.

We are very concerned that if the TMDLs are enforced on the river diversion projects that are currently being designed to mimic the historical, natural freshwater inputs, they could limit the amount of Mississippi River water used for restoration in the Barataria Basin due to limitations on the sediment and nutrients in river water. The BTNEP Management Conference considers the re-establishment of natural riverine inputs to be one of our most valuable restoration tools. We believe that a significant limitation placed on our ability to divert reasonable amounts of Mississippi River water into the Barataria Basin for wetlands restoration purposes could seriously compromise our efforts

Response: Text has been added to the Executive Summary and to Section 8 of the report explaining that EPA believes that restoration of these coastal wetlands involves supplying

nutrients through managed Mississippi River diversions. The report also states that low flow was determined to be the critical condition for these TMDLs. Although there are no current diversions of Mississippi River water into Bayou des Allemands, modeling results from this project indicate that if Mississippi River water was diverted into Bayou des Allemands, it should not cause any detrimental effects to DO concentrations in Bayou des Allemands. Therefore, these TMDLs are not intended to limit future diversions of Mississippi River water for coastal restoration.